DOCUMENT RESUME

ED 205 429 SO 013 499

TITLE	Social Studies Materials Adaptations for Visually Handicapped Elementary Students. Final Report.
INSTITUTION	Social Science Education Consortium, Inc., Boulder, Colo.
SPONS AGENCY	Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
PUB DATE	31 Jul 81
GRANT	G007701353
NOTE	118p.
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	Blindness: *Curriculum Development; Diffusion: Elementary Education: Low Vision Aids: Partial Vision: *Social Studies: Tactile Adaptation: Talking Books: *Visual Impairments
IDENTIFIERS	*Project MAVIS

ABSTRACT

This report describes Project MAVIS (Materials Adaptations for Visually Impaired Students in the Social Studies), a three year project of the Social Science Education Consortium in Boulder, Colorado. The purpose of the project was to adapt social studies curriculum materials for use by visually handicapped students in grades K-6 in both integrated and self-contained classrooms. There are six major sections to the report: introduction: product development, production, and revision: field testing of adapted curriculum materials: field test results: dissemination: and conclusions and recommendations. Appendices comprise about half the document. Project materials were adapted from five sets of commercially available social studies materials. A variety of techniques were used. Student materials were transcribed into braille, large print, and tape recordings. Photographs, drawings, art reproductions, and diagrams were described (eliminating the conventional "Picture: see teacher.") Maps, graphs, and diagrams not easily understood through verbal descriptions were produced in tactile format. All materials were field tested with positive results. The project also developed a series of sourcebooks accompanied by an audiovisual program for the classroom teacher. Project dissemination efforts included training key disseminators in the field of vision from around the country. These key persons then conducted dissemination activities back home. Project staff also conducted dissemination workshops. (Author/RM)

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FINAL REPORT

SOCIAL STUDIES MATERIALS ADAPTATIONS FOR VISUALLY HANDICAPPED ELEMENTARY STUDENTS

Grant Number G007701353

Bureau of Education for the Handicapped
U.S. Department of Education

July 31, 1981

SO 013 499

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1. INTRODUCTION

Project MAVIS (Materials Adaptations for Visually Impaired Students in the Social Studies) was funded in July 1977 as a three-year project of the Social Science Education Consortium of Boulder, Colorado. The purpose of the project was to adapt social studies curriculum materials for use by visually handicapped students in grades K-6 in both integrated and self-contained classrooms. The two major emphases in this adaptation process were on the creation of a broad range of materials which would make (1) the learning experiences of visually handicapped students more attractive and effective and (2) facilitate the mainstreaming of visually handicapped students.

To meet this broad goal, specific project objectives were developed for each phase--or year--of the project's efforts. The objectives are listed below.

Phase One (7/15/77-7/14/78)

1. To adapt substantial parts of at least five sets of new social studies curriculum materials, K-6, for simultaneous use by visually impaired and sighted students in integrated classes and for use by visually impaired students in self-contained classes.
2. To develop a sourcebook for elementary teachers that would (a) provide guidelines for the modification and adaptation of social studies materials and (b) offer suggestions for mainstreaming visually impaired students into elementary social studies classes with the aid of adapted materials.
3. To field test a number of the adapted materials in both self-contained and integrated classrooms and to ask several outside reviewers to submit critiques of the sourcebook.

Phase Two (7/15/78-7/14/79)

1. To revise the phase one curriculum materials adaptations and kits on the basis of pilot-test results.
2. To continue with the adaptation of elementary social studies curriculum materials.

3. To develop additional components of the resource package for adapting materials and for mainstreaming visually handicapped students in elementary social studies classes.

4. To revise the sourcebooks on the basis of feedback from the field.

5. To conduct field tests of both revised and newly adapted materials.

Phase Three (7/15/79-7/14/80)

1. To revise the adapted social studies curriculum materials on the basis of results from the spring and fall 1979 field tests.

2. To produce copies of the resource kit in quantities sufficient for use in phase three dissemination activities.

3. To collaborate with key leaders in the fields of vision and the social studies and with the MAVIS Advisory Board in the design of a dissemination plan.

4. To develop an inservice training model that will foster utilization of the MAVIS adaptation ideas and associated resource materials.

5. To carry out planned dissemination activities nationwide.

6. To work with Linc Services, Inc., the American Printing House for the Blind, and other organizations to assure publication of the MAVIS products.

Efforts of project staff to meet these objectives fell into three broad activity categories: (1) development, production, and revision of adapted curriculum materials and a resource kit consisting of six sourcebooks and a slide/cassette program, (2) field testing of the adapted curriculum materials, and (3) dissemination of the project's products and findings. The following sections of this report describe project activities and findings related to these three categories of effort.

2. PRODUCT DEVELOPMENT, PRODUCTION, AND REVISION

Determination of Product Format

One of the first project tasks undertaken was determining what form the products identified in the grant proposal--adapted curriculum materials and a sourcebook--would take. Several steps were taken in making this determination. First, a survey of social studies materials was made to provide a general estimate of current curricula which had been adapted for use by visually impaired students. The survey, which covered 16 elementary social studies series, indicated that a very low percentage of materials were available in any adapted form. The materials that were available were in all cases special-media versions of the student texts; no adaptations of teacher materials were available. The survey also indicated that the more recent the copyright date of the materials, the less likely that any of the materials were available in special media.

A second step in determining what form the project products should take was reviewing the literature regarding social studies and the visually impaired. This review indicated that, in general, little research has been conducted in the area. The research that has been conducted most often relates to learning of map skills and clearly indicates the need for materials which develop the necessary preliminary concepts and skills for map reading as well as materials devoted to sequential map skills development. Other research indicated a need for materials that provide students with concrete learning experiences and help students improve their self-concepts.

The perceived needs of teachers were assessed by systematic questioning of teachers in two settings--public schools (in California and Colorado) and residential schools (in Texas, New Mexico, and Colorado). Regular classroom teachers reported a need for a wide range of information about visually impaired students, including how they function in the classroom; what materials, activities, and resources are available; how materials and activities can be adapted for use with visually impaired students; special emotional and behavioral problems; and peer reactions. Classroom, itinerant, and residential school teachers all cited the need for appropriate instructional materials and activities. Materials developing map skills, communication skills, and self-concept were named as being particularly needed.

The results of these three activities, which are fully documented in the Project MAVIS Interim Reports of October 31, 1977 and January 15, 1978, were discussed at length with the members of the Project MAVIS Advisory Board. A number of possible means of adapting commercially available materials were examined; these included developing supplementary concept-related units which would be applicable across series, developing a concept continuum to be used in conjunction with other text materials or as a stand-alone curriculum, and adapting activities in standard materials to be suitable to the needs of visually impaired students. A variety of formats for the sourcebook were also discussed. On the basis of these discussions, the staff decided that the project products which would best meet the needs of teachers and students would take the following forms:

1. Adapted versions of the student and teacher portions of a variety of elementary social studies curriculum materials. Student materials would be transcribed into braille, large print, and tape recordings, with adaptations of maps and other visuals provided as needed. The teachers' editions accompanying the student materials would be adapted by annotating the teaching directions to provide special techniques for integrating the visually impaired student into learning activities. This adaptation format would allow classroom teachers to use their standard curriculum materials more effectively, a consideration that would make the products attractive to teachers and practical to schools financially.

2. A series of six sourcebooks accompanied by an audiovisual program. The series would cover such topics as understanding the various types of visual impairments, overcoming resistance to mainstreaming, dealing with the visually impaired student in day-to-day classroom operations, adapting social studies activities for the visually impaired, and identifying available resources and materials. Because of the wide range of topics about which teachers expressed a need for information, it was decided that the material should be divided into a series of booklets, rather than being packaged as one voluminous book. It was believed that this would enhance the possibility of teacher use of the material. The audiovisual program to accompany the sourcebooks was conceived as an introduction to the topic of mainstreaming the visually impaired through an examination of the activities of Project MAVIS.

The following subsections describe the development, production, and revisions of each of these products.

Adapted Curriculum Materials

Selection of Materials for Adaptation

Five sets of commercially available social studies materials were selected for adaptation. Criteria used in choosing materials for adaptation were:

1. Materials should be sound in social studies content and teaching approach.

2. Materials should represent the broad spectrum and variety of social studies products.

3. Materials should have or be projected to have wide usage throughout the country.

4. Materials should be current.

Using these criteria, we chose two textbook series, two "hands-on" social studies kits, and one career education program to adapt. We chose to adapt two 1-6 textbook series--the Silver Burdett Social Science Series (1976) and the Houghton Mifflin Windows on Our World series (1976)--because social studies is traditionally taught through textbooks. The Silver Burdett series represents a traditional but effective textbook approach to social studies. The Houghton Mifflin series is more innovative, particularly in its strong emphasis on affective learning.

Although textbooks are the most commonly used vehicle for teaching social studies, in the past few years many social studies educators have advocated use of nontextbook approaches in teaching, especially at the elementary level. The two kits selected—Ashanti Family of Ghana (published by Selective Educational Equipment) and Paddle-to-the-Sea (published by American Science and Engineering)--are examples of nontextbook, basal social studies programs. The kits both teach basic social studies concepts and skills through a variety of media and hands-on materials. The Ashanti kit is designed for primary students, while the Paddle-to-the-Sea kit is for intermediate students.

The fifth piece of material chosen was the fifth-grade component of a career awareness program published by Noble and Noble, entitled Career and Consumer Education. We selected this program because career awareness has been an important focus in social studies since 1973 and because we heard from many teachers of the visually impaired that VI students need special attention in this area.

The publishers of the five programs gave their permission and support to the adaptation effort.

Once the materials had been selected, the staff decided to adapt a sample unit at each grade level from the textbook series, along with the three complete kits, for the initial pilot test in the spring of 1978. Adaptation of student and teacher materials for this pilot test began during the second quarter of phase one.

Adaptation of Student Materials

Initial plans called for the student materials for each of the products being adapted to be transcribed into three media--braille, large type, and tape recording. The materials were to be transcribed into each medium as appropriate for student use. Copyright permissions were obtained from the publishers, and intent to transcribe forms were filed with the American Printing House for the Blind.

To meet national standards for production of materials for visually impaired students, the following format guidelines were used: Code of Braille Textbook Format and Techniques, 1977 (American Association of Workers for the Blind, Association for Education of the Visually Handicapped, and the National Braille Association); Tape Recording Manual, 1974 (National Braille Association); and NBA Manual for Large Type Transcribing, 1975 (National Braille Association). Some adaptations of standard formats were developed; these adaptations were discussed with officials of NBA to affirm that they could be implemented within national guidelines. The adaptations, along with production procedures and findings, are discussed below for each of the three media. Once transcribed into the appropriate media, the student materials were not revised on the basis of feedback because of the impracticality of doing so.

Braille. The major innovation in the braille materials was inclusion of descriptions of illustrations (photographs, drawings, art reproductions, and diagrams). The conventional "Picture. See teacher" was entirely eliminated. The development of the picture descriptions was based on the following considerations: (1) that the student be provided information from the illustration in a sequence conducive to developing an organized mental picture; (2) that the content of the illustration be presented in a manner that allows the student to perform cognitive tasks identical or comparable to those required of sighted students in interpreting the illustration; (3) that the visually impaired student be allowed to experience the illustrative material included in the texts only for esthetic and/or affective value; and (4) that all descriptions of illustrations be at the student's grade level vocabulary and be of a length relative to the importance of the illustration to student learning.

Maps, graphs, and diagrams not easily understood through verbal descriptions were produced in tactile format. Each tactile illustration was accompanied by a key and designed with simplicity to accommodate the student who has little or no experience in reading tactile illustrations.

Lists of vocabulary words to be learned in each unit of the text were added to the beginning of each unit in the braille texts. The vocabulary words were taken from the teacher's editions. These word lists were added because the classroom procedure for vocabulary development involves the teacher's listing new words on the chalkboard and the students' retaining or adding to the list of words as the unit progresses. The word lists permitted visually impaired students to have the list of new words readily available to them.

Detailed instructions for brailling the sample textbook units and the print materials from the three kits were prepared for the pilot test. The instructions included the picture descriptions and directions for inserting the descriptions in the text.

Production of the braille materials for the pilot test was coordinated through the Colorado Instructional Materials Center for the Visually Handicapped (CIMC/VH), which also provided the necessary supplies and equipment for production of the braille materials. The braille materials were transcribed by Library of Congress certified transcribers--volunteers from the Mile High Chapter of the American Red Cross, Braille Unit. The materials were proofread by a Library of Congress "A" Certified braille proofreader, paid from project funds. Duplication was completed by inmates of the Boulder County Jail's duplicating program under the direction of CIMC/VH. Binding and labeling were also provided by CIMC/VH. The tactile illustrations were produced by volunteer members of the Retired Senior Volunteer Program, Boulder and Jefferson County Units.

While the required braille and tactile materials were completed in time for the pilot test, the experience of producing the pilot test materials clearly indicated to us that our expectations for production of materials for the 1979 field test were not realistic. First, the limited number of volunteer braille transcribers available would not be able to complete the 12 textbooks needed in the amount of time allotted. Even had enough time been available, the low priority assigned to this project by the braillists, who had long-standing commitments in other areas, and by the assignment coordinator, who naturally placed a higher priority on the regular demands coming through the CIMC/VH, would have made completion of all 12 books impossible.

For this reason, the staff decided to concentrate brailling efforts on the Houghton Mifflin series, for which most of the field test subjects were being found. Standard-format braille (without picture descriptions) for the Silver Burdett series was obtained from the Florida Instructional Materials Center.

Even with this limiting of the braille demands, problems were experienced in completing the adapted braille texts because of conflicting demands for braille and personal problems of braillists, who, as volunteers, could not be required to work a set number of hours each week. The CIMC/VH assignment coordinator was in fact forced to solicit out-of-state assistance in brailling the texts. Five of the six Houghton Mifflin texts were ultimately completed. The texts will be listed in the APH Central Catalog and will be available through the New Mexico School for the Visually Handicapped.

The second area in which our expectations were shown to be unrealistic was in the production of tactile illustrations for the field tests. Since production of an individual illustration may require up to 20 hours of hand labor, numerous illustrations from 12 texts could simply not be produced in time for the field test.

As an alternative, we decided to produce a limited number of maps for each text. Each text would also be accompanied by a set of generic maps--in multiple copies--which could be adapted by teachers or students to illustrate specific concepts. An itinerant teacher with experience in designing and using tactile illustrations, Lin Kuzmich, was contracted with to analyze the maps in all 12 texts and determine which maps should be produced in tactile form and what the set of generic maps should consist of. Ms. Kuzmich's analysis resulted in the production of a limited number of tactile maps; these maps were selected because they introduced or developed a map skill of critical importance to the visually impaired student (such as understanding direction), were of critical importance to understanding the concept being developed in the unit, or were necessary for student participation in a key unit activity. The maps determined to be needed in the package of generic maps were outline maps of the world, North America, South America, Africa, Australia, and the United States (with and without state boundaries indicated). While not deemed necessary for use with the two series being adapted, maps of Europe and Asia might be necessary for use with other textbook series.

All the maps were produced by volunteers under the supervision of Kuzmich. The maps were duplicated through volunteer efforts at the Denver Public Schools and the Portland (Oregon) Public Schools.

Our experience in producing braille/tactile materials has led us to several conclusions. The volunteer braille system cannot accommodate the demands of a large project such as Project MAVIS unless the braillists and the assignment coordinator perceive the project to be a top priority, central to the completion of their normal duties. In addition, the project's lack of control over volunteer workers results in significant problems in meeting project deadlines: an employee who does not produce timely work can be replaced, a volunteer cannot.

Another interesting finding was that while conversations with individual braillists indicated that they liked the detailed instructions provided and were happy to include picture illustrations, perceiving that the descriptions would be beneficial to students, braille coordinators in other states whom we contacted in hope of soliciting assistance felt that braillists would resist any changes in their standard operating procedures. A lack of communication was evident.

Large Print. Because of the expense of producing large print materials, all student materials were carefully evaluated to determine whether they should in fact be produced in large print. The textbook units for grades 1 and 2 were not enlarged because the type used was already 14 point and spacing and leading were quite good. In addition, the color illustrations in these texts were judged to be critically important to the intended learning. The units for grades 3-6 were enlarged. No print materials in the Ashanti and Paddle kits were enlarged, as they were basically designed for use in a supplementary fashion. It was therefore believed that the less-expensive tape-recorded versions would suffice. The worksheets for the career education kit were enlarged.

A number of options for producing large print materials for the pilot test were explored. These included use of microfilm enlargement, photomechanical transfer, unfiltered photographic enlargement, and hand-transcribed large type. We chose to use a combination of two techniques. Because of the importance of the illustrations in many social studies texts, art work was done to simplify some visually confusing graphs and maps. In addition, some illustrations were reproduced independently through photographic color filter and screen techniques, resulting in a reproducible black-and-white photograph or drawing. Large print word lists, similar to those inserted in the braille units, were also added.

Art work and pasteup were done by volunteers, and the photographic reproduction was done by students in the graphic and printing program of Aurora Vocational Technical High School, Aurora, Colorado. The project supplied materials only. The American Printing House for the Blind was contracted to produce plates for enlargement to 18-point type, print, and bind the pilot test units.

The pilot test experience confirmed that the expense encountered in producing large print materials is relatively high compared to the small demand for large print. In addition, conversations with pilot test teachers indicated that the additional work done on illustrations did not significantly increase teacher or student satisfaction with large print materials. We therefore consulted with Advisory Board members, vision teachers, and vision teacher trainers regarding provision of large print for the 1979 field test. The advice garnered from these consultations led us to decide to provide the text materials for grades 3-6 in large print only when specifically requested by the classroom teacher and vision support teacher. Since many of the classrooms in the 1979 field tests were already using the series, large print texts were available through the districts' regular channels. When this was not the case, we were able to obtain large print through either the California Clearinghouse Depository for the Handicapped (on a loan basis) or the Microfilm Company of California (Los Angeles). This arrangement worked quite well, as the demand for large print proved to be fairly small.

Tape Recording. Descriptions for all illustrations were included in the tape-recorded versions of the print materials. For the materials in grades 3-6, these descriptions were essentially the same as those used in the braille texts. For grades 1 and 2, longer descriptions were written for the taped texts because students' listening comprehension is much greater than their reading comprehension at these grade levels. Vocabulary words were pronounced and spelled at the beginning of each unit.

The textbook materials were tape recorded and duplicated by the California Clearinghouse Depository for the Handicapped. All production time was volunteer, under the direction of the depository staff. The project's only expense was for the blank tapes. Materials from the kits were produced by the Colorado State Library for the Blind.

Tape-recorded materials were provided to all pilot test classrooms, regardless of whether the visually impaired student normally used taped materials. Instructions for using the tapes individually, in small groups, or with the entire class were given.

As no problems were encountered in producing the tapes for the pilot test and the response to them was quite positive, the same production and distribution system was used for the spring 1979 field test. At that time, a number of teachers indicated that they had difficulty either obtaining or using the four-track recorders necessary to use the tapes. Thus, for the fall 1979 field test, the tapes were provided in either two-track or four-track format.

Throughout the pilot test and field tests, no significant problems were encountered in producing taped materials. This contrasts sharply with the experience of producing braille materials. The difference appears to have been due to the fact that because both textbook series being adapted had been adopted by the state of California, staff members and volunteers of the depository viewed production of these materials as part of their regular jobs, rather than as an add-on. In addition, the director of the depository was highly committed to the Project MAVIS effort.

While not a serious problem, the fact that four-track recorders were unavailable to many classroom teachers was somewhat surprising. In some cases, this appeared to be due to the itinerant or resource teachers' reluctance to allow special equipment out of their areas. In others, there was a real shortage of necessary equipment. However, such equipment was often available on loan from state IMC's or other agencies, but the teachers appeared to be unaware of this fact.

Adaptation of Teacher Materials

The adaptations of the teachers' editions were designed to provide the classroom teacher with helpful information about visually impaired students, as well as alternatives for activities that would not be effective with the visually impaired student. The adaptations were presented on slipsheets bound into the teachers' editions for ease of use.

A standard format for presentation of the adaptations was developed during the second quarter of phase one of the project. This format was used in adapting the textbook series and, with slight modification, the kits. The format involves a lesson-by-lesson presentation of the adaptations, with each lesson's adaptation being presented in four sections.

"Using This Lesson with Visually Impaired Students" highlights special opportunities or problems that a lesson might present for use with visually impaired students. For example, if a lesson focuses on consumer skills, the adaptation might point out how important such skills are to visually impaired persons if they are to achieve independence. A lesson on map skills might be introduced by a discussion of the special map-reading skills required for the visually impaired student to grasp the targeted concept.

"Special Student Materials" provides a listing of any materials needed to do the adapted activities for that lesson, while "Advance Preparation" includes information on anything that the teacher needs to do to prepare for the lesson. When students or the itinerant or resource teacher could assist in the preparation, this suggestion is made.

The fourth section of the adaptations for each lesson, "Teaching Strategies," is where the actual adaptations are presented. Each adaptation is number-keyed to an existing suggested activity in the teacher's edition. For the most part, the suggested strategies are actual adaptations of ideas given in the teacher's edition, rather than brand-new activities. Alternatives for children with different types or degrees of visual impairment are sometimes given. Alternatives of varying complexity are also sometimes offered.

The two guiding principles used in developing the adaptations were that (1) the adapted activities should meet the same learning objectives as the original activities and (2) the adapted activities should be designed for use with the entire class, not just the visually impaired student. In addition, the classroom teacher's constraints of time were kept in mind in suggesting alternative activities.

As a reference for the classroom teacher, transcriptions of the picture and illustration descriptions inserted in the brailled and taped student materials were also provided in the adapted teachers' editions.

The pilot test units and the kits were adapted by teachers at the New Mexico and Texas Schools for the Blind and edited by the project staff. During this process, we found that a number of recurring problems occurred in using commercial social studies materials with mainstreamed visually impaired students (e.g., how to deal with the highly visual nature of many lessons; how to present maps and graphs so that visually impaired children can learn to decode them; how to integrate visually impaired children into analytical discussions; and how to ensure that visually impaired children receive the maximum benefit from group activities such as role playing and field trips). General strategies for handling these and other recurring problems were therefore developed and incorporated into a general introduction to the use of Project MAVIS-adapted materials. In addition to presenting these general strategies, the introduction also acquainted the teacher with the Project MAVIS materials and served as a reference in their use.

While a number of methods of producing and binding the adapted teachers' editions were investigated, the only method which proved feasible given the limited number of guides to be produced was photocopying of adaptation pages, hand cutting of the original texts, and hand assembly of the adapted guides. Spiral binders were used to rebind the guides for the pilot test.

The adaptations of the Ashanti and Paddle-to-the-Sea kits were revised based on the pilot tests results, as were the six sample units from the textbook series. Conversations with pilot test teachers and Advisory Board members indicated that the adapted Noble and Noble Career and Consumer Education kit should not be further pursued; this conclusion was drawn because of conflicting views on career education in the field of vision education and because the kit presumed a certain level of career awareness that most visually impaired students do not have. A product which would be part of a sequenced career program for visually impaired students was believed to be needed. Development of such a product was beyond the scope of Project MAVIS. Further revision of the Noble and Noble material was therefore not undertaken.

The pilot test results indicated the need for only two general changes in the adaptation and production processes. Although teachers found the four-part lesson adaptation format to be useful, they found repetition of the same adaptations to be somewhat annoying. Thus, it was decided that adaptations of activities which recurred frequently should be given two or three times at the beginning of each unit and then be phased out, assuming that they would by then have become teaching habits. Secondly, the plastic spiral binders proved to be too weak to hold the adapted teachers' editions for the textbook series. An alternative suggested by several pilot-test teachers was putting the adapted guides into notebooks. Because the teachers' editions for the two series were not standard page sizes, such notebooks had to be special-ordered. It was therefore decided to order notebooks for the Houghton Mifflin series, for which the demand for the spring 1979 field test was considerable, and to use metal rings to hold the Silver Burdett series, for which the demand was minimal.

Adaptation of the rest of the units in the 12 textbooks was done by a writing team which included a classroom teacher, residential school teachers, a county vision consultant, and itinerant teachers. Most of the work was done at an intensive writing conference held in the last quarter of phase one, with some follow-up being completed by participants at home.

The writing team approach to adapting the teachers' editions proved to be quite successful. The team members were able to share ideas with one another and provide valuable feedback that working in isolation could not permit. In addition, the varying professional experiences of the team members made for useful interchange. For example, while the residential school teachers had a vast store of activities that could be used to develop various concepts in visually impaired students, the classroom teacher was able to explain that some of these ideas required more time and preparation than the mainstream teacher would be willing to commit to one social studies lesson. Such an interchange would be useful in any curriculum development or adaptation effort directed at instruction of disabled students in the regular classroom.

The experience in adapting the text and kit materials indicated that virtually any type of common social studies instructional strategy can be adapted and that with very limited exceptions (extremely sophisticated map or visual concepts) all content is appropriate. However, some characteristics of materials make them easier to adapt and more readily meaningful to the visually impaired student. One of the key factors is the extent to which instruction is activity-based. Most action-oriented instructional activities can be easily adapted for visually impaired students; such activities are generally very meaningful for the disabled student as well as for sighted students. Texts which rely heavily on reading, discussion, and visual interpretation are more difficult to use meaningfully with the visually impaired student. Teachers must either develop a very effective and interesting way of conveying visual information to the student or must develop action-oriented activities which reinforce the learning conveyed visually.

The content focus of certain textbook series may also make them particularly appropriate for use with visually impaired students. During the adaptation process, team members often stressed that content of some lessons was almost tailor-made for visually impaired students. Many areas seen as important to the visually impaired were for the first time perceived as being part of social studies; these include self-concept, understanding human likenesses and differences, decision making and responsibility, working in groups, sources of learning, the world of work, economic and consumer concepts, communications, and spatial and environmental awareness.

While not as important as instructional strategy and content focus, some physical characteristics of textbooks can also make them easy or difficult to use with visually impaired students, particularly partially sighted students. For example, some textbook publishers do not number every page of the student text or do not place the page numbers in a consistent spot on the page. This can make finding the correct page a frustrating and time-consuming task for the visually impaired student. Other publishers print much of the text of their books over photographs or on colored paper. This is another characteristic which makes texts difficult for the partially sighted to use.

School personnel who select textbooks should be made aware of the abovementioned factors and should apply this knowledge in making selection decisions.

Production of the adapted teachers' editions indicated that detailed page-by-page adaptation of commercially available textbook materials poses problems. First, given the large number of textbook series available and the relatively small number of visually impaired students, the limited demand for adaptations of any one series necessitates a hand production process, such as was used in producing the MAVIS pilot and field test materials. The result is a publication which is quite expensive--approximately $30.00 to $40.00 per adapted teacher's edition. Second, publishers' frequent updating of their text materials makes detailed adaptations obsolete very rapidly. Both of the 1976 series selected for adaptation have now been revised: the Silver Burdett series in 1979 and the Houghton Mifflin series in 1980. Thus, it is unlikely that page-by-page adapted teachers' editions of elementary social studies series will ever be marketable products. For this reason, only minor revisions in the adaptations were made based on the field test results. These revisions were made in response to comments from teachers regarding specific adaptations which posed problems in implementation.

Project MAVIS Sourcebook Series and Slide Presentation

Development of Sourcebook Series

During the second quarter of phase one, tentative outlines for the first five sourcebooks in the series were developed based on consultation with teachers, vision experts, and others. Authors were identified and contacted. During the following quarter, the authors submitted outlines of the sourcebooks for critique by the project staff. Writing of the sourcebooks was completed in the last quarter of phase one, and the manuscripts were sent out to reviewers. The reviewers were selected based on recommendations from the Advisory Board. Each sourcebook was reviewed by at least one academic or administrative person and one practitioner. Advisory Board members also reviewed the manuscripts. The following list provides the title, author, content abstract, and reviewers for each of the first five sourcebooks:

Sourcebook 1: Who Is the Visually Impaired Child?

Author: Marvin Efron, University of South Carolina

Abstract: Defines visual impairment for the classroom teacher. Common types of visual impairments, their causes, and their implications for classroom behavior are discussed. The author also examines the student's eye report and educational plan. Photographs simulating various levels of visual acuity and several types of visual field limitations illustrate the text.

Reviewers: Gaylen Kapperman, Northern Illinois University
JoAnn Vigil, Denver Public Schools

Sourcebook 2: *Encouraging Successful Mainstreaming of the Visually Impaired Child*

Author: Michael Orlansky, University of Virginia

Abstract: Focuses on the importance of a good working relationship between the classroom teacher and the specially trained teacher of the visually impaired. Using a dialogue format, the author delineates the areas in which these two members of the service delivery system can help and support each other. Specific teaching and classroom management strategies are presented, as are ideas for including the visually impaired child's parents as partners in the educational team.

Reviewers: Kenneth Ricker, University of Georgia
Jeanne Vlachos, Los Angeles County Public Schools
Janie Fox Jones, Texas Education Agency

Sourcebook 3: *Teaching the Visually Impaired Child in the Regular Classroom*

Author: Madge Leslie, Portland State University

Abstract: Provides a primer on teaching the visually impaired student in a mainstream setting. Planning the visually impaired child's educational program, defining roles of members of the service delivery system, obtaining special materials, equipment and support services, establishing the classroom environment, and guidelines for effective teaching are among the topics covered.

Reviewers: Fred Sinclair, California Clearinghouse Depository for the Handicapped
Robert Dodge, San Mateo County Schools
Gayle Fulton, Brighton (Colorado) Public Schools

Sourcebook 4: Social Studies for the Visually Impaired Child

Author: Laurel R. Singleton, Project MAVIS Staff

Abstract: Based on the Project MAVIS adaptation experience, this sourcebook presents strategies for adapting common social studies activities for the visually impaired child. Discussions, research, map and globe skills, field trips, and interpretation of pictures are only some of the topics discussed. The sourcebook also outlines a procedure for adapting standard social studies textbook materials for use with the visually impaired student and a list of social studies topics of special value to the visually impaired child.

Reviewers: William Ozers, Withers (California) Unified School District
Carole Hahn, Emory University

Sourcebook 5: Important Concerns in the Education of Visually Impaired Children

Author: Philip H. Hatlen, San Francisco State University

Abstract: Describes the development of current service delivery systems in education of the visually impaired and analyzes the advantages and disadvantages of each. This discussion is followed by a description of what can occur if the system is not functioning properly. The sourcebook concludes with a discussion of crucial learning areas for visually impaired children and a list of appropriate role responsibilities for the classroom teacher and the specially trained teacher of the visually impaired.

Reviewers: Michael Orlansky, University of Virginia
Barbara Shalit, New Jersey State Commission for the Blind

Reviews were received during the first quarter of phase two. Although some reviews were negative, no sourcebook manuscript received unanimously negative reviews. In instances in which there was an equal number of positive and negative reviews, additional reviews were sought. As a result of the reviews, two sourcebooks were returned to the authors for revision. Comments from other reviewers were incorporated into the sourcebooks during the in-house editing process.

To provide a more complete set of teacher-training materials, the five sourcebooks completed in phase one were supplemented by an additional sourcebook developed during phase two. This sourcebook was prepared by project staff members. It provides an annotated list of four types of resources for classroom teachers: readings on visual impairments and teaching of visually impaired children; organizations and agencies providing services to the visually impaired and professionals working with them; materials and equipment; and curriculum materials for teaching about disabilities.

By the end of phase two, all six sourcebooks had been revised, edited, and typeset. Printing of 500 copies of the series for use in dissemination activities was accomplished in the first quarter of phase three. Arrangements were made with Linc Services to have the books reviewed for commercial publication and distribution. The RFP to publishers was issued in late January of 1980. In April, Project MAVIS was notified that the Social Science Education Consortium (MAVIS's sponsoring agency) had been awarded the license to publish and distribute the six MAVIS sourcebooks. The books were made available for purchase (as a set) in July, 1980.

Informal feedback from the field indicates that the Project MAVIS sourcebook series is meeting a need for concise, easily usable information about education of visually impaired children in the mainstreamed classroom. Response to sourcebook 1, which provides information on visual impairments, has been particularly enthusiastic. One user of the sourcebooks wrote, "The entire series should be required reading for all teachers and student teachers of the visually impaired. Book four, the one on social studies, is broad enough to be part of all elementary education preparation programs.... Every school which has a resource class for visually impaired students should have this series in the professional library."

Development of Slide Presentation

To supplement the sourcebook series, an audiovisual presentation introducing both Project MAVIS and the concept of mainstreaming was planned for production during phase two of the project. The intent was to show actual classroom scenes in which a regular classroom teacher interacts with sighted and visually impaired students in an integrated setting. A format that would permit stopping the presentation for discussion was desired.

Arrangements were made for the audiovisual presentation to be produced as a cooperative venture with the Los Angeles County Schools' Special Education Media Services unit. This arrangement was coordinated by Jeanne Vlachos, then vision consultant for Los Angeles County and a member of the MAVIS adaptation team. The arrangement agreed upon with Los Angeles County called for MAVIS to provide a classroom set of MAVIS-adapted materials to a class in a Los Angeles County school and for Los Angeles Media Services to photograph and audiotape the class using the materials during regular social studies class periods. Because this photographing was done in conjunction with an extensive program of media production to aid in inservice training of Los Angeles teachers, the expense to MAVIS was minimal.

The resulting slide show, entitled "Mainstreaming With Project MAVIS," is intended to accomplish two purposes: (1) to demonstrate how a visually impaired child can be fully integrated into a regular classroom setting and (2) to specifically detail how teaching strategies are adapted in MAVIS products to provide fuller, more-effective integration of visually impaired children into regular social studies classes.

The slide show was critiqued by audiences at the annual meetings of the California Transcribers and Educators for the Visually Handicapped Association and of the Visually Impaired: Services, Educators, Resources and Volunteers Association of Colorado and by the MAVIS Advisory Board and participants in the MAVIS Dissemination Planning Conference held in September 1979. Based on suggestions from these groups, the visuals and audio were revised. Copies of the presentation were made for all members of the MAVIS dissemination team for use in dissemination activities.

3. FIELD TESTING OF ADAPTED CURRICULUM MATERIALS

A major objective of the MAVIS project was to field test the student and teacher materials produced by the project. Testing was done in three phases, with both formative and summative data collected.

Phase 1 - Pilot Test of Curriculum Materials

In the spring of 1978 a pilot test of sample adapted materials was conducted. The purpose of the test was to determine (1) the usefulness and suitability of the materials chosen for adaptation and (2) the soundness of the adaptation processes being employed.

Meeting the objectives of the pilot test did not require a large sample of subjects, and the project staff chose to limit testing to Colorado, New Mexico, and Texas to help contain travel costs and allow more staff contact. It was also decided not to have a control group of students because the number of students required to have both control and experimental groups would not have been possible to secure in a limited geographical area.

The procedures established in setting up the pilot testing became the precedent for the major field testing in 1979. First, initial contact was made with the superintendents at the Colorado, New Mexico, and Texas residential schools for visually impaired students and with the directors of the special education programs in Colorado and New Mexico school districts which were known to be active in mainstreaming visually impaired students. In most instances in the public schools, the special education director was favorable, but actual permission to test had to be secured through the evaluation division of the school system; sometimes the request required school board approval. In residential schools, permission was granted by the schools' superintendents. Once permission was obtained, individual teachers who were potential pilot test teachers were contacted personally, given information on the materials and intended testing procedures, and asked to participate. Nearly all contacted teachers did agree to participate, and arrangements for teacher training were made.

The teacher training for the pilot test materials consisted of presenting each cooperating teacher with an overview of the materials he or she would use, a demonstration of specific uses of the materials, an explanation of the testing procedures designed to collect data, and an opportunity for the teachers to study the materials and ask questions. Plans for classroom observation were also drawn up at this time.

Table 1 shows the materials tested, number of teachers and students participating, and the location by state of the pilot test subjects.

Table 1

TEACHERS AND STUDENTS COMPLETING THE PROJECT MAVIS PILOT TEST, SPRING 1978

Material	Number by State	Total Number
Adapted Hardcover Texts:		
Mainstream Classroom Teachers		
Colorado	16	
New Mexico	5	21
Mainstreamed VI Students		
Colorado	17	
New Mexico	6	23
Sighted Students in Mainstream Classrooms		
Colorado	425	
New Mexico	125	550
Paddle-to-the-Sea Kit:		
Mainstream Classroom Teachers		
Colorado	3	
New Mexico	0	3
Mainstreamed VI students		
Colorado	2	
New Mexico	0	2
Sighted Students in Mainstream Classrooms		
Colorado	80	
New Mexico	0	80
Residential School Teachers		
Colorado	1	
New Mexico	1	
Texas	1	3
Residential School Students		
Colorado	8	
New Mexico	10	
Texas	7	25
Ashanti Family of Ghana Kit:		
Residential School Teachers		
Colorado	1	
New Mexico	1	
Texas	3	5

Table 1 (cont.)

Material	Number by State	Total Number
Residential School Students		
Colorado	7	
New Mexico	8	
Texas	16	31
Noble and Noble Career Awareness Kit:		
Residential School Teachers		
Colorado	0	
New Mexico	1	
Texas	2	3
Residential School Students		
Colorado	0	
New Mexico	18	
Texas	7	25

The results of the pilot test in terms of student cognitive and attitude changes as well as teacher use data are discussed in section 4. Based on the results of the pilot test, several directions and procedures were set for the full-fledged field tests which were conducted the following year. The conclusions below were particularly important in the project's later work.

1. All future adaptation would be of textbooks, not hands-on kit materials. Although the staff began the project feeling that the kit materials would be the more adaptable and more popular materials, the pilot test indicated this was not true, at least in mainstreamed settings. Teachers were not accustomed to using kit materials, schools did not have them available, and the kit style did not fit with most teachers' usual style of teaching. Therefore, project attention was focused on the staple of social studies instruction in the classroom--the basal textbook.

2. In general, teachers and students seemed to prefer less rather than more adaptations. This finding was particularly true for mainstreamed classrooms, in which teachers were concerned that some of our adaptations required too much time; they felt lesson objectives could have been accomplished with less-complicated adaptations.

3. The process of page-by-page adaptation seemed on target, but it was clear that this was a time-consuming procedure and required more person-hours than could be provided by the project staff. Based on this conclusion, the

concept of an adaptation conference was conceived and implemented as described in section 2.

4. In attempting to set up the pilot test, we learned that making contact with the appropriate school personnel, securing administrative approval to conduct an evaluation, conferring with potential teachers, providing necessary inservice training, and readying materials for each site was very time consuming. This knowledge prompted us to begin our negotiations for the next year's testing sooner than we might have otherwise done.

5. Careful collection of data requires very tight procedures and constant monitoring. Because we did not have staff stationed at every testing site, we had to depend on teachers to collect the data accurately and to return it to us. This was not always done in the pilot test, and we attempted to implement more-structured procedures in the later field tests.

Phase 2 - Spring 1979 Field Test

Based on the lessons of the pilot test, much attention was given to locating subjects for the spring 1979 field test. The initial design for the test called for experimental and control groups of youngsters in mainstreamed classrooms, with all grade levels represented and with enough numbers for comparison at each grade. The first efforts at securing field test sites were begun in late 1977. For economic and professional reasons, it was decided to concentrate efforts on the west coast of the United States. Financially this seemed reasonable because of the population concentration in this area. Professionally it seemed logical because California, Oregon, and Washington were all known to have active, well-established mainstreaming programs for visually impaired youngsters.

The first persons contacted in each of the three west coast states were state department of education specialists, either the directors of special education/special services or the directors of clearinghouses for materials for visually impaired students. From these contacts, we received the names of school districts who either had extensive mainstreaming programs or who had requested braille, large print, or taped copies of the textbooks we had adapted.

We then contacted both the specialists for vision in the identified school districts and the districts' social studies supervisors. From the vision specialists we were able to determine how many visually impaired students were mainstreamed into social studies classes at each grade level; from the social studies specialists we determined if any of the mainstreamed students were using either of the two textbook series we had adapted. The search effort resulted in very few potential students--fewer than 15.

At this point, we broadened our search in three ways. First, we contacted state vision specialists in a number of states to obtain information on any districts which had requested transcribed copies of the texts we had adapted. Second, we contacted state social studies supervisors to locate school systems that were using the materials. Finally, we contacted the marketing departments of Houghton Mifflin and Silver Burdett, publishers of the materials adapted and asked them to provide us with names of large school districts which had purchased their elementary textbook series.

Again, these efforts resulted in only a few more students and classrooms. We therefore decided to discontinue the experimental/control design and to treat all the identified subjects with the MAVIS-adapted materials. Table 2 shows the number of students participating in the spring field test.

In conducting the spring field test, essentially the same procedures were used as had been followed with the pilot test; contact was made with a district administrator, formal permission secured, initial meetings with teachers held, teacher training conducted, and materials readied and delivered. From our experiences in the pilot test, we were able to avoid some difficulty in the first field test, but other problems plagued us and were more troublesome because of the geographic distance between sites and the need to conserve our financial resources. Among the most-vexing problems were:

1. Getting teachers together for group meetings was often impossible, so teachers had to be contacted and trained individually. This was not only time consuming and therefore expensive, but it did not help develop any "esprit de corps" among the participants in a district.

2. The external problem of attrition affected our sample. Students moved, were changed to other programs, developed lengthy illnesses, etc. When the sample size is so small, such attrition is very serious. Yet no measures are possible to prevent such happenings.

3. Classroom observations, although carefully planned ahead with teachers, were often disrupted by other school or personal activities. A student would be called away from class for music or sports events or would be absent

Table 2

SPRING 1979 FIELD TEST

District	Grade	No. of VI Students
Evanston, IL	3rd	1
	2nd	1
Los Angeles County	6th	1
	5th	1
	4th	1
Oakland, CA	4th	1
	1st	1
	2nd	1
	3rd	1
	6th	1
	2nd	1
	6th	1
Berkeley, CA	6th	1
	5th	1
Spokane, WA	5th	1
	3rd	1
	2nd	2
	1st	1

because of illness. When the observer must travel some distance to make classroom observations, these unexpected events can play havoc with the total collection of observational data.

4. Interviews with students did not prove particularly useful. With children of elementary age, the value of student interviews was questionable in the opinion of interviewers. Examination of the interview data suggests that such interviews do not add substantially to the information acquired through paper-and-pencil instruments and classroom observations.

5. The conscientious return of data, a problem in the pilot test, remained a problem in this first field test. Although we provided self-addressed, stamped envelopes and clear instructions on how and what to return, some teachers did not mail in final test results. We were able to pick up some of the tests in the fall field test, but others were lost to the project in this way.

While these problems were significant, three important positive outcomes resulted from the spring field test:

1. We had become more effective in learning how to act within the bureaucracy of local school systems. Because we were more savvy about how to apply for permission and whom to contact for information, the negotiations with the school systems were much smoother than in the pilot test.

2. Information gained from teacher interviews (especially when combined with classroom observations) was very useful in assessing the soundness and practicality of the MAVIS materials. Although teachers were not always willing or capable of providing good written evaluations, structured conversations with them did provide much useful information.

3. In general, the spring field test suggested that we were on target with the MAVIS adaptations. The teachers using them were generally favorable, the students seemed to like them, and the classroom observations indicated that they had classroom practicality. With this perspective, we continued into the fall field test, making only procedural revisions we felt might help overcome the five problems addressed earlier.

A more complete analysis of the spring evaluation results is aggregated with the fall field testing in section 4.

Phase 3 - Continuation of Field Test, Fall 1979

The primary goal of continuing the fall field testing was to add numbers to our sample to assure more reliability of our findings. In addition to employing all the strategies used in identifying the spring field test sites, we also attempted to attract more classroom sites by offering to provide classroom sets of texts to teachers who were willing to field test the materials but who did not have Houghton Mifflin or Silver Burdett materials. This offer did help to increase our numbers somewhat. The final count of students in the fall field test is shown in Table 3.

Table 3

FALL 1979 FIELD TEST

Program	Location	Number of Classrooms	Number of VI Students
Houghton	Oakland, CA	2	2
Houghton	Spokane, WA	2	2
Houghton	Denver, CO	6	9
Houghton	Boulder, CO	1	1
Houghton	San Juan, CA	6	6
Houghton	Chino, CA	2	5
Houghton	New Mexico School for the Blind	6	25
Houghton	Colorado School for the Blind	2	13
Silver Burdett	Wilmette, IL	1	1
Silver Burdett	Clover Park, WA	1	1

The only problem which we confronted in the fall test that was not confronted in spring testing was the inability to learn until almost the day school started how many students would be registered in various grade levels. Although school districts generally make some attempt to determine enrollments of visually impaired students in the spring, they cannot be certain until fall just who will actually appear. This made it very difficult to prepare materials and to judge how many books to buy.

For the aggregated spring/fall field test results, see section 4.

4. FIELD TEST RESULTS

The major feature of the Project MAVIS evaluation plan was the use of multiple outcome measures to attempt to detect as many outcomes as possible related to the effectiveness of the project-adapted materials. The staff asked teachers to administer student knowledge tests, which were the publishers' tests. Students were given pre/posttests of attitudes and were interviewed on the use of the materials. Teachers were also given pre/posttests of attitudes and were interviewed on materials use.

In reading the analysis below, it should be kept in mind that the results Project MAVIS hoped to achieve were fairly subtle. The project was not trying to alter an entire curriculum, but rather to make regular curricular goals more meaningful for and more accessible to the visually impaired student in a mainstreamed setting. It was discovered early in the project that detection of any effects of the use of adapted curriculum materials could not be done using typical statistical means without a very large sample size and a testing period of longer duration, neither of which was possible in the project.

Testing Overview

Field testing took place in three phases. The first phase was a pilot test conducted during the spring of 1978; the second began in the spring of 1979 and continued through phase 3 in the fall of 1979.

A complete analysis of pilot test results was presented in the project's Interim Report of October 15, 1978. This analysis is presented in Appendix A.

Table 4 below summarizes basic information about the students participating in the MAVIS field testing during phases 2 and 3. The major reason for the continuation of the field testing into the 1979-80 academic year was that the project had a relatively small sample size in the spring 1979 testing (19 students and 18 teachers) and there was a good opportunity to expand significantly the sample size at relatively low cost during the 1979-80 academic year.

Table 4

PROJECT MAVIS
FIELD TEST STUDENTS

		Sex		Primary Classroom Media Used			
Grade Level	No. of Students	M	F	Braille	Large Print	Regular Print	Tape
1	6	3	3	1	2	2	1
2	6	4	2	2	2	2	0
3	8	4	4	1	3	4	0
4	8	3	5	3	5	0	0
5	14	10	4	4	8	2	0
6	4	2	2	1	3	0	0
Totals	46	26	20	12	23	10	1

In total, 46 mainstreamed visually impaired students participated in the field test, with some students at each grade level. However, the sample size at each grade level was still rather small; the largest group of students was 14 at the fifth-grade level. The sex distribution of the students was approximately equal. The primary classroom media used by the students varied considerably, which meant that project staff needed to spend time in assuring that students had appropriate materials.

Table 5 below shows that the project worked in seven major metropolitan areas and in 39 different classrooms.

Table 5

PROJECT MAVIS
METROPOLITAN AREA CLASSROOM SITES

Metro Area	No. of Classrooms
Chicago	3
Denver	7
Los Angeles	5
Oakland/Berkeley	11
Sacramento	6
Spokane	6
Seattle/Clover Park	1
TOTAL	39

Data Analysis

Student Knowledge

To test student knowledge, field-test teachers were asked to use the end-of-unit tests that accompanied the student materials. The design was to compare the visually impaired students' class rankings on a test for an unadapted unit with a series of unit test results on one or more adapted units to determine whether students' ranks changed. The control measure was the visually impaired students' rank on the unadapted test.

It should be kept in mind that our major interest was change in student knowledge test results after use of adapted materials. Thus, the effect of adapted materials was of major concern, rather than comparison of students, classes, or various kinds of adaptation. For purposes of analysis we are considering that we have one sample of 37 students (all the students for which we have knowledge test data), as we examined the change in relative position that use of adapted materials may have had on visually impaired students. The 37 students took a total of 67 adapted unit knowledge tests.

For the 37 students we calculated percentile rankings on a unit test given after use of unadapted materials (our control measure). After use of the adapted materials, students' percentile rankings on each unit test (67 in total) were calculated to determine the change in percentile rank compared to the unadapted percentile rank. The table in Appendix B shows complete data on each visually impaired student's rank.

Table 6 below summarizes the data on change in percentile rank between unadapted and all adapted unit tests administered during the field test period by type of media used by the VI students.

Table 6

PROJECT MAVIS
VI STUDENT CHANGES IN PERCENTILE RANK
ON ADAPTED UNIT KNOWLEDGE TESTS
FROM UNADAPTED UNIT TEST

	Regular Print	Large Print	Tape	Braille	Totals	Percentage
Increase	6	23	2	8	39	58.2
Decrease	5	13	1	7	26	38.8
No Change	0	1	0	1	2	3.0
					67	100.0

In each student media category the number of percentile rank increases exceeded the number of decreases. Total increases were 39 (58.2 percent); total decreases were 26 (38.8 percent). There were two cases (3 percent) where no percentile change took place. If there had been no effect of the adaptations, we would expect half of the percentile changes to be increases and half to be decreases. In fact, we found about 60 percent increases and only 40 percent to be decreases, indicating the possibility of some effect of the adaptations. If we were to conduct a statistical test of proportion, this would result in a "z" score of 1.61. ($z = \frac{x - \bar{x}}{\alpha}$; $\frac{39-32.5}{4.03}$). This is significant at the $\alpha = .0537$ level.

Student Interviews

Forty students were interviewed using the MAVIS student interview schedule. The interviewer introduced him/herself as a representative of Project MAVIS and proceeded to ask each student a number of questions concerning the use of the adapted materials.

The questions centered on use of maps, use of tapes, the picture descriptions, the word lists, and the braille materials. Analysis of the results of the student interviews was difficult, in that there were many missing responses and some indication that students were not even aware they were participating in an experiment or demonstration project related to social studies.

Where the data were complete, the following are reportable results: (1) in general, the MAVIS tapes were the most used of the media provided; (2) the tapes were primarily used as part of whole-class instruction, rather than with individuals; (3) students who used the tapes individually thought the tapes were relatively easy to use; (4) more than half of the students responding (55 percent) thought the picture descriptions on the tapes helped them participate in class discussions about the pictures; (5) about 43 percent of the students responding indicated that the word lists on the tapes were helpful; (6) 45 percent of the students responding felt the tapes helped them in class discussions.

A copy of the student interview schedule is included as Appendix C.

Student Attitudes

Students who participated in the two phases of field testing were asked to complete a 19-item Likert-format attitude questionnaire designed to assess their affective reactions toward several aspects of their social studies class before and after MAVIS materials use. (See Appendix D for a copy of the questionnaire.) Thirty-seven visually impaired students completed both the pretest and the posttest. The instrument was shown to have a reliability of .77 (Chronbach's alpha calculated on the posttest scores of all students participating). Table 7 below shows the results of "t" tests which indicated significant changes in students' attitudes.

Table 7

SIGNIFICANT CHANGES IN VISUALLY IMPAIRED STUDENTS' ATTITUDES

$\alpha = .10$

Question	Pretest Mean*	Posttest Mean*	Significance	
			t-value**	p-value
I like it when we talk about pictures during social studies class. (N=37)	2.96 (.182)	2.46 (.221)	1.67	.104
Our social studies textbook is easy to read. (N=37)	2.89 (.234)	2.43 (.204)	1.67	.104
The things our social studies textbook tells about are interesting. (N=37)	2.92 (.199)	2.41 (.240)	1.88	.068
I like school pretty much. (N=37)	3.27 (.167)	2.59 (.227)	2.33	.026

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*Higher numbers mean disagreement with the statement. Numbers in parentheses are standard errors.

**Absolute values.

As can be seen in the table, visually impaired students showed a significant and positive change in their attitudes toward discussion of pictures. The visually impaired students changed significantly in their attitude toward how easy their social studies text was to read. Also, the visually impaired students changed in their attitude toward the interest level of their social studies text. Interestingly, the visually impaired students showed a significant positive change in their liking of school.

On all other items on the student questionnaire, there were no significant attitude changes.

Teacher Attitudes

Thirty-one field-test teachers completed a 27-item Likert-format attitude questionnaire (see Appendix E) before and after using the Project MAVIS adaptations. The questionnaire was designed to measure teachers' attitudes toward mainstreaming, their text materials, their class, the use of resource persons to help with the visually impaired, and the equipment available for working with the visually impaired. The reliability of the complete instrument was .74 (Chronbach's alpha calculated on the posttest results of the 31 teachers who completed both the pretest and posttest forms). Table 8 below shows the results of the "t" tests which indicated significant changes in teachers' attitudes.

Table 8

SIGNIFICANT CHANGES IN TEACHERS' ATTITUDES
$\alpha = .10$

Question	Pretest Mean*	Posttest Mean*	Significance	
			t-value**	p-value
The materials my VI student uses in social studies meet his/her learning needs. (N=31)	3.97 (.149)	2.65 (.202)	4.43	.000
The equipment my VI student has in the classroom is sufficient to meet his/her needs. (N=31)	2.68 (.224)	1.77 (.195)	3.79	.001
I generally like the students in this class. (N=31)	3.68 (.085)	3.52 (.102)	1.72	.096
The activities suggested in our textbook are interesting to most of the students. (N=31)	2.94 (.160)	2.29 (.155)	3.23	.003
The content of our textbook is interesting to the students. (N=31)	2.90 (.134)	2.42 (.152)	2.40	.023
The content of our textbook is generally appropriate for my students. (N=31)	3.32 (.127)	2.48 (.179)	2.33	.027
Other students sometimes are neglected when VI students are placed in regular classrooms. (N=31)	2.16 (.186)	1.77 (.178)	1.42	.012
I support the mainstreaming of all types of educationally handicapped children. (N=31)	2.35 (.243)	1.35 (.227)	2.16	.016

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*Higher numbers mean disagreement with the statement. Numbers in parentheses are standard errors.

**Absolute values.

As can be seen by the table, there were significant changes in teachers' attitudes toward the social studies text materials and equipment from pre- to posttest. Interestingly, the teachers' attitudes toward the students in class improved significantly. Of most interest to the project are three significant attitude changes related specifically to the MAVIS adaptations: (1) perception of how interesting the text activities (MAVIS adaptations) were; (2) perception of how interesting the content was for students; and (3) perception of the appropriateness of the content for students. Clearly, the field-test teachers came to feel that other students were neglected in the course of mainstreaming, but also supported mainstreaming of the educationally handicapped.

On all other items on the teacher attitude questionnaire, there were no significant attitude changes.

Teacher Interviews

All 39 field-test teachers were interviewed using a structured interview form which included 66 questions (see Appendix F). Interviewees were given an opening statement of the purpose of the interview. That is, the interview was to focus on the primary objective of Project MAVIS, namely, to aid in integrating visually impaired students into regular classrooms through the vehicle of adapted social studies materials. Teachers were then asked a number of questions within each of the following categories: helpfulness of the MAVIS introduction, materials use and format, adapted activities from the teachers' guides, use of assistance and general effectiveness of MAVIS, and mainstreaming.

The following analysis is organized around these categories.

Helpfulness of the MAVIS Introduction. Close to three-quarters (73.3 percent) of the participating teachers thought the introduction to the MAVIS guides was helpful as a teaching tool for use in a regular classroom that includes a visually impaired student. The most helpful suggestions for teaching the visually impaired students (with over 50 percent of the teachers responding positively) included tips for discussion, developing student discussion and questioning skills, techniques for describing pictures, activities for developing listening skills, techniques for developing observation skills with all the senses, using audiovisual materials, using illustrations, adapting or making appropriate-medium illustrations, and integrating the visually impaired students into group activities. Over 60 percent of the teachers felt that the teaching suggestions in the introduction helped to integrate the visually impaired student into the classroom.

Materials Use and Format. Over 60 percent of the field test teachers felt that the slipsheet format of the MAVIS-adapted teachers' guides "worked well." Nearly 45 percent of the participating teachers used the teaching suggestions all or most of the time. An additional 40 percent used the ideas some of the time. Thus, a total of 85 percent of the field-test teachers used the MAVIS ideas at least some of the time. Seventy-one percent used the picture descriptions on the slipsheets with the whole class. In terms of use of the adapted activities, 63 percent or more of the time, teachers used those activities as they had been written. In 90 percent of the responses, teachers felt that the adapted activities were generally appropriate for their visually impaired students.

Adapted Activities from the Teachers' Guides. In terms of helpfulness for their students, 76 percent of the field-test teachers felt the adapted activities were helpful. Sixty-nine percent felt that the adapted activities were adequate in teaching the visually impaired students concepts and skills; 76 percent felt that the adapted activities helped to integrate the student into the classroom. All the teachers used the activities, and over 50 percent of the teachers felt that the map activities worked the best with the visually impaired students.

Use of Assistance and General Effectiveness of MAVIS. One interest of the project was the degree to which teachers used itinerant or resource room teachers and how they felt about them. In the interviews with the 39 participating field-test teachers, we discovered that more than 60 percent of the teachers asked the resource teacher or itinerant teacher for help about one-third of the time. In about 20 percent of the cases, teachers indicated that asking for help was the result of the MAVIS adaptations. In terms of their overall work and preparation time, about half of the teachers felt that their social studies preparation time increased as a result of the use of MAVIS adaptations, but they also felt that the time spent in preparation was acceptable. Interestingly, only 34 percent of the teachers said they would have made the same adaptations without the use of or knowledge of Project MAVIS. In trying to assess the general effectiveness of Project MAVIS, 87 percent of the teachers responding felt that providing adapted activities increased their own effectiveness in teaching the visually impaired student standard subject matter along with the rest of the students. In trying to assess the effects of various media, responses on the effects of the use of braille, tape, and large print were inconclusive. In general, the teachers felt that the type of media used with the visually impaired student was appropriate. However, it should be noted that in most cases the teacher chose the type of media to be used.

Mainstreaming. In attempting to assess the degree to which teachers supported mainstreaming, we found that about half of the teachers felt they had changed their approach to working with the visually impaired student as a result of using the MAVIS materials. However, it should be noted that 32 percent of the teachers participating felt that they did not change their approach. Seventy-nine percent of the participating teachers felt that the MAVIS guides were a useful approach to facilitating the mainstreaming of the visually impaired students into regular classrooms. Sixty-three percent of the teachers felt it would be useful to have adapted teachers' guides for other subject areas. Seventy-six percent felt that the guides were more helpful in the mainstreaming process than the adapted student materials.

Discussion of Results

Student Knowledge

In the absence of other design problems, there may have been a positive effect on student knowledge performance attributable to the MAVIS adaptations. One problem was that field-test teachers did not consistently administer tests. For those teachers who did administer a series of tests, we need to recognize that the test outcomes were not independent events. Also, we know that the tests were not parallel with comparable content. This leads us to suspect that test reliability should be questioned.

Student Attitudes

Results from the student interviews and attitude questionnaire suggest that the MAVIS adaptations were successful in helping visually impaired students feel comfortable in discussing pictures in social studies. Two factors may have contributed to this finding: inclusion of picture descriptions in the braille and taped texts and provision of strategies to help teachers present visual information more effectively. While the analysis does not permit separation of the effects of these two factors, it seems likely that the two interacted. For students using braille or tape materials, the provision of picture descriptions is a major change from standard materials, one likely to have a significant impact on student attitudes. However, for students using large print or regular print texts, more-effective teaching strategies were probably the greatest influence on attitudes. Classroom observations did confirm that teachers were using a more-structured approach to discussing pictures and including the VI students in those discussions more often after exposure to the MAVIS materials.

The data also indicate that the MAVIS adaptations apparently had an effect on VI students' attitudes toward the readability of their text, interest in topics covered in the text, and school in general. Students' perception that their texts were easier to read after using MAVIS adaptations is difficult to explain. Perhaps the change was due to the fact that in all cases students were provided with the text in the media of choice; unfortunately, social studies texts (a low subject area priority in elementary schools) are often not available to VI students. The taped texts provided to all field-test classes may have enhanced the effect of having the appropriate-medium text.

Students' increased interest in the content of their social studies texts can again be attributed to several factors: inclusion of picture descriptions in the student text; higher level of participation in class activities as a result of MAVIS-adapted teaching strategies; or the increased level of attention given the student by the teacher simply as a result of participation in the research effort.

The more-positive attitude toward school in general is a rather broad change difficult to attribute to a specific element of the MAVIS program. One possible interpretation is that visually impaired students' experienced a greater feeling of competence and involvement in using MAVIS-adapted materials and thus perceived school as being a more-positive experience.

Teacher Attitudes

Teachers' responses to the attitude questionnaire showed several changes which seem to indicate that teachers perceived the MAVIS adaptations to be on-target in helping VI students participate more effectively in classroom activities. These changes included perceived adequacy of materials and equipment, interest in activities and text content, and content appropriateness.

Teachers also showed more-positive attitudes toward mainstreaming of all types of educationally handicapped children after using MAVIS materials, perhaps because they became more aware of the ways in which standard curriculum materials can be adapted to be more effective with disabled students. On the other hand, teachers felt more strongly after using MAVIS materials that other students sometimes are neglected when VI students are placed in regular classrooms. This finding may be related to the fact that half of the teachers found that their social studies preparation time increased as a result of using MAVIS adaptations. Although these teachers reported that the increase was acceptable, they may have felt that the result in some ways had a negative impact on sighted students. Classroom observation was not extensive enough to confirm or disprove the teachers' perceptions.

When asked directly about the MAVIS adaptations, teachers were generally supportive, indicating that the format of the adaptations is appropriate for use in regular classrooms and may be transferable to other subject areas. These responses also indicate that the MAVIS adaptations are appropriate activities for VI students and that the strategies suggested in the introduction to the MAVIS materials were helpful in integrating the VI student into the classroom. Since the text adaptations and introduction served as the basis for sourcebook 4, these results support the usefulness of that product as well.

5. DISSEMINATION

Development of Dissemination Plan

The first major dissemination activity was to hold a conference of key disseminators in the field of vision from around the country to plan an effective and efficient strategy for disseminating information about the products and experiences of the MAVIS project. This meeting was held September 27-29, 1979 in Boulder, Colorado. Attending the meeting were:

Phil Hatlen, San Francisco State University
Rita Livingston, University of Texas
Ralph McCracken, American Printing House for the Blind
Jonathan McIntire, New Hampshire Department of Education
Mary Osmundson, Regional Consultant-Visually Impaired, Fergus Falls, Minnesota
Mary Powers, South Carolina Department of Education
W. Buck Schrotberger, Colorado Department of Education
Fred Sinclair, California Clearinghouse Depository for the Handicapped
Susan Jay Spungin, American Foundation for the Blind

Participants were given a detailed explanation of the MAVIS products and activities, along with tentative evaluation results. Following the introductory information, the participants' attention turned to dissemination planning. To begin the discussion, the MAVIS staff explained the dissemination plan which had been specified in the phase three renewal proposal submitted to BEH. This plan was essentially a "trainer-of-trainers" model, calling for the MAVIS staff to train a core group of trainers who in turn would train the ultimate target groups--classroom teachers and vision teachers. The core group was envisioned as consisting of representatives from eight regions; these teams would include both social studies and vision educators.

Using this plan as a foundation, the group developed a revised plan which involved the following essential components:

1. Dissemination activity was to be centered around 11 university training programs for teachers of the visually impaired. These programs were identified by conference participants based on their geographic distribution and the effectiveness of the programs in terms of MAVIS dissemination needs.

2. From each of the 11 universities, one person was to be identified as the key MAVIS trainer. The key trainer was to select a second person from the region to serve as a cotrainer. Possible persons to serve as key trainers and cotrainers were identified by the conference participants.

3. Each key trainer was to be provided a budget to be used to cover expenses incurred in training and perhaps to provide limited participant support.

4. To continue the ongoing Project MAVIS effort to combine the expertise of vision educators and social studies educators, the MAVIS staff was to contact one or more social studies educators in each geographic area and enlist their participation in dissemination activities planned by the university training teams.

In addition to formulating the general dissemination plan above, conference participants also made suggestions about the objectives and design of the trainers' conference and of the inservice training model to be used in dissemination activities by trainers, recommended that emphasis in the dissemination activities be placed on the sourcebooks and on the general adaptation strategies developed by Project MAVIS, and suggested that some joint dissemination efforts with the SAVI (Science Activities for the Visually Impaired) project be investigated.

MAVIS Trainers Conference

As specified in the plan developed at the September meeting, key trainers from 11 universities were invited to attend a MAVIS trainers conference. Each key trainer was requested to invite a second person to join him/her in a team dissemination effort. The table on the following page shows cotrainers, their affiliations, and geographic regions.

The conference was held January 21-22, 1980 in Boulder. These two days were preceded by one day in which staff members of the SAVI project conducted a dissemination session on their materials. Participant expenses for this day were paid by the SAVI project. The cooperative MAVIS-SAVI conference was arranged when communication between the two projects revealed that both projects planned to involve many of the same university teacher preparation persons in their dissemination efforts. Thus it seemed both cost and energy

Table 9

PROJECT MAVIS DISSEMINATION TEAMS

Key Trainer	Cotrainer	Geographic Area
Sheldon Maron Portland State University Portland, Oregon	Suzan Wapnick Portland State University	Alaska, Washington, Idaho, Oregon, Western Montana
Philip Hatlen San Francisco State University San Francisco, California	Jack Hazecamp California State Department of Education	Northern California, Northern Nevada, Hawaii, Utah
Rose Marie Swallow California State Univ., L.A.	Joy R. Efron Los Angeles Unified Schools	Southern California, Southern Nevada, Arizona, Guam, Trust Territories
	Fred Sinclair California State Department of Education	
Grace Napier University of Northern Colo.	Charles Wright Billings Public Schools Billings, Montana	Colorado, Wyoming, Montana, New Mexico, North Dakota, South Dakota, Nebraska, Kansas
Evelyn Rex Illinois State University Normal, Illinois	Diane Wormsley Illinois State University Normal, Illinois	Wisconsin, Illinois, Iowa, Missouri
George V. Gore Michigan State University East Lansing, Michigan	Marjorie E. Ward Ohio State University Columbus, Ohio	Michigan, Indiana, Ohio, Minnesota
	Geraldine Scholl Univ. of Michigan Ann Arbor, Michigan	

Table 9 (cont.)

Key Trainer	Cotrainer	Geographic Area
Don Walker University of Virginia Charlottesville, Virginia	Sam C. Ashcroft Vanderbilt University Nashville, Tennessee	Virginia, South Carolina, North Carolina, Tennessee, Kentucky,
Richard M. Jackson Boston College	Karen Ross Boston College	New England, New York, New Jersey
Ralph Peabody University of Pittsburgh	Susan Kershman Temple University Philadelphia, Pennsylvania	Pennsylvania, Delaware, Maryland, West Virginia
Gideon Jones Florida State University Tallahassee, Florida	Pat Carpenter Georgia Public Schools Scottdale, Georgia	Florida, Georgia, Mississippi, Alabama, Puerto Rico
Rita Livingston University of Texas Austin, Texas	Daniel N. Head University of Arkansas at Little Rock	Texas, Arkansas, Louisiana, Oklahoma

effective to hold a joint conference; feedback from participants on the conference arrangement was quite positive.

During the conference, participants were provided with an overview of the project. After a general introduction to MAVIS, MAVIS-adapted student and teacher materials were demonstrated. This was followed by a discussion of the MAVIS sourcebooks, which had been sent to participants prior to the meeting. The "Mainstreaming with Project MAVIS" slide presentation was shown and various uses were discussed. Field test methodology and preliminary results were also discussed.

After this orientation to the project, participants were presented with a variety of specific strategies to be used in dissemination activities. These activities included demonstration of adapted activities, as well as special workshop activities developed to highlight information provided in the MAVIS sourcebooks. Table 10 lists these activities. This presentation was followed by a session in which conferees were given an overview of other elementary social studies textbooks and allowed to examine these books and develop lesson adaptations for them. By becoming familiar with other social studies texts, trainers were encouraged to have teachers in inservice sessions bring their own textbooks and spend time adapting those books using suggestions from the MAVIS sourcebooks.

Following these training activities, conferees were grouped into three work groups, which developed plans for dissemination in three settings--short sessions (1 to 3 hours) at professional meetings, full-day inservice training sessions with classroom or special teachers, and infusion of information about the MAVIS products and strategies into ongoing preservice college courses. The results of these work groups were then shared among the conference participants.

The second day of the conference was devoted to team planning for regional dissemination activities. Each team left the conference with fairly specific plans for disseminating information about MAVIS in their geographic area. A reporting system was also discussed.

Activities of MAVIS Dissemination Teams

The MAVIS dissemination teams began their work shortly after the January training conference. Because many of the disseminators' ongoing activities

Table 10

SUGGESTED ACTIVITIES FOR DISSEMINATION

1. "Mainstreaming with Project MAVIS," the project slide show.

2. Why Social Studies? Explaining the rationale for the project. Depending on the audience, this might include explaining either or both of the following: why social studies is important for the visually impaired student and why social studies materials require adaptation. Although opinions on the importance of social studies may vary, the ideas listed in Appendix B of MAVIS Sourcebook 4 represent some of the key social studies concepts for visually impaired students. Why adaptation is needed for social studies materials can be illustrated with any number of activities from the adapted texts.

3. Explaining the adaptation process. This can be done the same way that we explained the process to you, using virtually any activity from an adapted text.

4. Practice doing adaptations with the actual materials being used in a particular district.

5. Demonstration lessons selected from the adapted texts.

6. Explanation of the content of the Project MAVIS sourcebook series.

7. Sample activities from the MAVIS sourcebooks. See the list of ideas below for possibilities.

IDEAS FOR WORKSHOP ACTIVITIES BASED ON THE PROJECT MAVIS SOURCEBOOKS

1. Interpreting the Eye Report. Give participants a sample student's eye report. Have them work in small groups to extrapolate as much relevant information as they can from the report. They should concentrate on such questions as how well the child can function visually, what kinds of changes in the child's vision may occur over time, what things need to be considered in the child's educational plan, etc. They should also list the questions they would like to ask the examining optometrist or opthalmologist. Debrief the activity using Sourcebook 1 as a reference.

2. Defining the IEP. Ask participants to brainstorm a list of the items they believe are contained in the IEP. Post a list of the five main elements of the IEP as given in Sourcebook 2 and discuss the list with the group.

3. Setting Goals. Provide participants with a profile of a particular visually impaired child, including the type of vision problem, materials and aids used, and educational experiences. Also provide a list of some of the local school district's major goals for sighted children of the same grade level. Ask the participants to work in small groups to plan appro-

Table 10 (cont.)

priate goals for the visually impaired student. Debrief the activity by going over areas of special need for the visually impaired student (Sourcebooks 3 and 5) and by discussing why participants adapted particular goals for the visually impaired student.

4. Establishing Cooperation Between the Classroom and Vision Teachers. Again provide participants with a profile of a particular visually impaired child, including the staffing plan for the child. Ask two participants to role play the initial planning meeting between the classroom teacher and the itinerant or resource teacher after the staffing. The discussion debriefing the role play should cover the questions and topics that should be discussed by the two teachers, the plans that need to be made, and role definitions that would be appropriate. Sourcebooks 2, 3, and 5 can serve as resources for the debriefing.

5. Dealing With the Visually Impaired Child's Classmates. Ask participants to role play a classroom situation in which sighted students want to do too much for the visually impaired child. Debrief the role play by examining strategies for (a) illustrating the visually impaired child's capabilities, (b) offering help constructively, and (c) helping the visually impaired child accept help when needed and decline it when unneeded. Sourcebooks 2, 3, and 4 will be useful in debriefing the activity.

6. Developing Listening Skills. Give the group a series of commands which they must obey after hearing each only once. Increase the complexity of the commands until no one in the group is able to complete the required actions successfully. Explain that this is one of several listening skills activities suggested in Sourcebooks 3 and 4.

7. Using Models. Provide several models of machines or animals. Ask participants to design a lesson around the use of the models. Debrief the activity by analyzing whether the lesson plan included the essential points in using models. Two of these points would be discussing the size and textural characteristics of the model in relation to the object it represents and explaining or demonstrating the function of the modeled object. Sourcebooks 3 and 4 provide information on the use of models.

8. Developing Questioning Skills. Provide participants with two editorials or letters to the editor expressing varying viewpoints on a particular topic. Divide the group into two or more smaller groups. Have each group complete the following steps: (a) identify information which would help determine which viewpoint is correct; (b) frame questions which could elicit that information; (c) identify a person(s) who could answer the questions; and (d) use their questions in a role-playing situation with a member of another group acting as the person identified in step (c). Debrief the activity by going over the questioning skills involved in the exercise. Point out that Sourcebook 4 provides other activities for helping students develop questioning skills.

9. Planning Field Trips. Describe a possible field trip and its purpose; for example, a social studies class might visit a natural history museum to learn about Native American cultures. Ask participants to work in small

Table 10 (cont.)

groups to list the steps they would take in planning such a trip for a class which includes a visually impaired student. When they have completed this task, describe several problems which might arise during the field trip: the displays can only be viewed from a distance of six feet, all information about the display is provided in written form, etc. Debrief the activity by discussing whether the groups' plans included provisions for handling such problems. Sourcebooks 3 and 4 provide helpful information about field trips.

10. Analyzing Service Delivery Systems. Have the participants read Dr. Hatlen's description of the various service delivery systems (Sourcebook 5). Discuss the advantages and disadvantages of the participants' system as they perceive them and as Hatlen perceives them. Conclude the activity by asking participants to suggest strategies for dealing with the disadvantages.

11. Teaching About Disabilities. Display one or more pictures or posters or read one or more passages from literature which show stereotyping of disabled persons. Examples might be old March of Dimes posters; pictures of Mr. Magoo, Porky Pig, and Elmer Fudd; Hathaway shirt advertisements; Dickens' description of Tiny Tim; or Stevenson's description of Black Dog and Pew in Treasure Island. Discuss with participants how such pictures or passages influence the way nondisabled individuals view disabled people and how disabled people view themselves. Encourage participants to discuss openly how stereotypes about disabled people are acquired. Suggest that there are a number of ways of teaching about disabilities and stereotyping. Sourcebook 6 lists a number of curriculum materials and ideas which can be used to do so.

12. Identifying Resources. Have participants brainstorm a list of problems, questions, or needs which might arise in mainstreaming a visually impaired student. Then have them use local resource directories and Sourcebook 6 to create a list of resources for meeting these needs.

into which information about MAVIS could be easily infused were scheduled to occur after the original project completion date of July 14, 1980, a three-month no-cost extension was requested from BEH for the continuation of dissemination efforts. It is, of course, hoped that information about MAVIS will become a permanent part of the disseminators' information-provision networks.

Each dissemination team submitted bimonthly reports on their dissemination efforts. The tables on the following pages show the number of persons reached by the teams during the last two quarters of phase three.

Staff Dissemination Activities

In addition to coordinating the activities of the dissemination teams, the project staff also conducted a number of dissemination sessions. These included presentations at the annual meetings/conferences of:

California Transcribers and Educators for the Visually Handicapped (1979 and 1980)
Visually Impaired: Services, Educators, Resources and Volunteers of Colorado (1979 and 1980)
National Council for the Social Studies (1979)
Organization of State Vision Consultants (1979 and 1980)
Rocky Mountain Regional Social Studies Conference (1980)
California Council for the Social Studies (1980)
Northeast Regional Social Studies Conference (1980)
New York State Council for the Social Studies (1980)
Association for Supervision and Curriculum Development (1980)

Staff presentations were also made at a SAVI-MAVIS training conference held in Berkeley, California in March 1980, a 1980 summer seminar for teachers of the visually impaired at San Francisco State University, and an NSF-sponsored meeting of state department of education consultants from seven western states held at the Social Science Education Consortium in July 1980.

Table 11

DISSEMINATION ACTIVITIES BY MAVIS TRAINERS
1/22/80-4/15/80

Activity	Location	Participants
District Inservice Day	Billings, Montana	VI Teachers, Student Interns (4)
CEO Conference	Great Falls, Montana	Residential Teachers, Librarians, Resource Room Teacher, Administrators, Consultants, O/M Instructor
University Graduate Course	Ohio State	Graduate Students in Visual Handicap (7)
Arkansas State Department Workshop	Little Rock, Arkansas	Regular and Visually Impaired Teachers (21)
Pennsylvania Visual Handicap Annual Conference	Harrisburg, Pennsylvania	Visual Handicap Teachers and Supervisors (35-40)
University Preservice Course	University of Pennsylvania, Pittsburgh	Preservice Students in Visual Handicaps (10)
Student Teacher Seminar	University of Texas	Student Teachers (13)
Inservice Program	Louisiana School for the Blind	Residential Visual Handicap Teachers, House Parents, Administrators (42)
District Inservice Day	Austin, Texas	Visually Handicapped Teachers (12)
University Course	Portland State University, Oregon	Preservice Teachers (24)
University Course	Portland State University, Oregon	Preservice Teachers (8)
Student Teaching Seminar	University of Michigan, Ann Arbor	Student Teachers in Visual Impairment (4)

Table 12

DISSEMINATION ACTIVITIES BY MAVIS TRAINERS
4/16/80-7/15/80

Activity	Location	Participants
Inservice Course	Regional Special Education Association--Lombard, Illinois	Teachers of Visually Handicapped (8)
University Graduate Seminar	Illinois State University	Graduate Students (6)
University Course	Fresno State University	Special Education Teachers (35)
District Inservice	San Diego Unified School District	Special Education Teachers and Administrators (25)
Inservice Training	Quincy (CA) Community College	Special Education Teachers (25)
Training Conference	Lawrence Hall of Science--Berkeley, California	University Teacher Trainers (10)
National Conference Workshop (Helen Keller Conference)	Boston	Visually Handicapped Teachers (30)
Inservice Program	Washington State School for the Blind	Residential Teachers (14)
Teacher Inservice Institute	Alexandria, Minnesota	Visually Handicapped Teachers (75)
Teacher Inservice Institute	Lansing, Michigan	Visually Handicapped Teachers (100)
Meeting Presentation--Curriculum Resource Consultants	Lansing, Michigan	Resource Consultants (13)

6. CONCLUSIONS AND RECOMMENDATIONS

After working three years on the MAVIS project, the staff has reached some general conclusions about research and demonstration projects of this nature and some recommendations which emerge from the conclusions. These we share as food-for-thought for future research/development/adaptation/demonstration projects.

CONCLUSION:

Curriculum materials adaptation, like that done in the MAVIS project, is a useful learning experience for developers and the resulting materials are well-liked and usable by teachers and students, but such literal adaptation is too expensive and too quickly dated to be feasible on any broad-scale basis.

In adapting 12 textbooks and several types of hands-on materials, the MAVIS staff demonstrated that such adaptation could be done, that every lesson in every book could be made effective for both sighted and visually impaired youngsters. We also learned that teachers and students liked such materials, learned from them, and felt better about their social studies experience as a result of using the materials.

But the process was exceedingly expensive when adaptation time, field-test time, and dissemination time is totaled. Compounding this problem is the fact that textbooks become quickly obsolete. Elementary social studies textbooks are revised by publishers every three to four years. In addition, there are many textbooks on the market--25 to 30 elementary social studies textbook series at any given time. Therefore, the expense and overwhelming work involved in trying to prepare textbooks and teacher's guides for students and teachers in the manner used by MAVIS does not seem the most justifiable procedure for providing curriculum materials for mainstreamed classes. However, the following recommendations do seem practical and supported by the MAVIS experience.

RECOMMENDATIONS:

1. Future curriculum development/adaptation should focus on the production of generic materials rather than the literal adaptation of existing materials. Limited literal adaptation is useful for helping developers get "inside" textbooks and understand the way in which concepts are presented and students are engaged in learning. But the final products of development

projects are more useful for longer periods of time if they focus on topics and skills which are common to most textbooks at particular grade levels. In social studies, generic adaptation is possible because there is a comm[illegible] pattern of grade level topics used in most elementary textbook series. For example, if generic materials on the community are prepared for the third grade, they will fit with most social studies textbooks teachers may be using. Or if a skill such as examining a globe is included in a product for first-graders, it will complement most first-grade texts. Such generic materials, if produced with the mainstreamed classroom's potentials and limitations kept in mind, will be a welcomed aid for teachers without suffering the instant obsolescence of literally adapted materials.

2. *Any future adaptation work should focus more attention on the interpretation of pictures, particularly at elementary levels*. Our field-test experiences indicated that both teachers and students found the picture descriptions provided in the student's transcribed materials and in the teachers' guides very helpful in dealing with information from pictures. Most teachers are not skilled in helping students, either sighted or visually impaired, interpret pictures; often an assumption is made that students are adequately or accurately interpreting such information when they are not. Consequently, visual interpretation becomes a skill development activity which profits both sighted and visually impaired students in knowing how to look at pictures, how to ask questions about pictures to gain information, and how to describe pictures to someone else.

3. *Future development efforts in materials for mainstreamed classrooms should consider including audiotapes of printed matter as part of materials provided for all students*. The taped books that our project provided to mainstreamed teachers turned out to be among our most popular products. Most regular classroom teachers have not had the opportunity to use taped books; they found them useful for students with various kinds of learning disabilities and for students who just needed to improve listening skills. Taped books seem to be a tool whose use has been unnecessarily limited in regular classrooms.

4. *In producing materials, particularly braille, development projects should avoid when possible the need to rely on volunteers to produce materials*. This is not to indicate that volunteer work is inferior--quite the contrary,

we had excellent production by volunteers in the MAVIS project. But volunteers' work is voluntary--it is difficult to get materials done on the kind of time schedule necessary in a development project. Therefore, if it is possible to get paid help to produce materials, projects can be more confident about time schedules.

CONCLUSION:

When developing curriculum materials for mainstreamed classrooms, a team approach is essential. Included on the team should be specialists and teachers in education of the visually impaired and specialists and teachers in the subject area under development (e.g., social studies).

One of the most enlightening experiences of the MAVIS project was the adaptation conference held in the first year of the project, which brought together a variety of educators (itinerant teachers, residential teachers, regular teachers, county administrators, etc.). The first discovery of the group was that they did not speak a common language--concept development had a different meaning to the vision teachers than to the regular classroom teachers, for example. In addition, the various persons had different perceptions of what was desirable and feasible in the mainstreamed classroom (our major target). For instance, in tackling the problem of how to teach a mainstreamed visually impaired child about clouds, the residential teachers had many creative ideas, but the regular classroom teachers felt the ideas were too elaborate and would take too much class time. Therefore constant clarifications and compromises were necessary.

But it was these clarifications and compromises which led to some of the best adaptation ideas and seemed to produce adaptations which were class room-effective. Therefore, while the approach wasn't the most docile, it did avoid the pitfalls of having the adaptations too complex for regular classroom use, which might have happened if only vision specialists had worked on the materials, or insensitive to the needs of visually impaired youngsters, which might have happened had only social studies specialists worked on the adaptations.

RECOMMENDATIONS:

1. Any curriculum development or adaptation efforts, whether at a local or national level, to produce materials for mainstreamed classrooms with visually impaired students should be done through interdisciplinary teams. To make this recommendation feasible, it is necessary for vision

specialists and curriculum specialists from various disciplines to start working together. At the district level, this may mean having joint meetings of vision specialists and social studies or math or reading teachers to begin learning about each other's goals and procedures. At the national level it suggests that national associations in vision and in the curriculum areas begin sharing presentation time at each other's conferences and exchanging articles in each other's professional journals.

2. Materials produced for a particular setting (residential school, regular classroom, resource room) should be developed by, or have balanced input from, the teachers who work in those settings. Developers who do not "live in" a particular setting cannot have the insight to know what is viable in that setting. Teachers do, but they may not have the development skills necessary to produce materials. In addition, our experience suggests that input from several, rather than one or two teachers, is important to avoid individual preferences or prejudices. Again, a team approach seems most effective--particularly when the team has balanced representation between teachers who would be using the materials and professional developers.

CONCLUSION:

Evaluation of curriculum development/adaptation products for low-incidence populations such as visually impaired students should not be conducted with the large number, experimental/control group designs employed in other educational research. Instead, limited numbers of subjects in settings which are intensively and frequently observed, tested, and monitored should be the evaluation design of choice.

As documented in section 3, the MAVIS staff employed a variety of strategies and expended considerable energy attempting to get a sufficient number of subjects in our field test to carry out a credible experimental/control experiment. We were unsuccessful, despite our efforts and a large financial cost.

What we learned from the data we collected in our 39 classroom test sites, we could have just as easily learned working in fewer sites, closer to home, where we could have observed the classes and interviewed the teachers more often.

The virtue of limiting testing to fewer, more-intensive sites in curriculum evaluation may become a necessity with more restricted development budgets and with the stricter controls being placed on research (particularly that which includes handicapped students) by local school districts. Our experience in MAVIS and in other projects conducted by the Social Science Education Consortium over the past five years indicates that there is a growing suspicion of "research" in the classroom. Research is seen as disruptive, without pay-off for the school, and risky in terms of parental objection. Therefore, rather than seeking many classrooms in which to test, evaluators would do well to build a supportive arrangement with fewer teachers and work together with the teacher to collect valuable formative data which will revise materials into truly useful products.

RECOMMENDATIONS:

1. In planning evaluation of curriculum development projects, researchers should plan for a limited number of test sites (three to five), seek sites which offer both administrative and teacher support for the testing, develop early relationships with teachers so they can provide input into both the product development and evaluation design, and plan the evaluation to include frequent and intensive classroom observations. The MAVIS experience suggests this type of research will yield not only more useful data for product revision, but will do so at far less cost.

2. In evaluating curriculum products, special attention should be given the collection and use of teacher interview data. Of all the kinds of data we collected, the teacher interview information was most useful in making product revisions. If evaluation dollars are limited, this source of information should take precedence over student interviews and perhaps over paper/pencil testing of attitudes.

CONCLUSION:

Dissemination of curriculum development/adaptation products is a process which takes time and requires thought and activity throughout the development process.

In Project MAVIS we found dissemination required two efforts. First, we had to provide information to potential consumers about our products. Second, we had to convince skeptical potential consumers about the soundness of our work and the purity of our intentions. Fortunately, we were able to reach many people through our trainer-of-trainers model and we were able to secure the trust of many important leaders in both vision and social studies.

Our experience suggests that future projects which seek to work interdisciplinarily should be sensitive to problems of professional cliquishness and to the difficulty of discovering the most effective ways to work within various professions. For example, MAVIS discovered that university professors in key teacher training institutions were probably the most influential people in dissemination efforts. In social studies, however, university professors were less important for MAVIS purposes than social studies supervisors in major school districts and certain state education agency specialists. This knowledge is critical to effective dissemination, but difficult to acquire without input from knowledgeable people in each field.

RECOMMENDATIONS:

1. Dissemination activities for development projects need to be started during the project's first year. Such dissemination may be through group efforts such as in-progress presentations at conferences and articles in journals. But efforts also need to include direct mailings or conversations with persons in the relevant fields who serve as channels for information to pre- and inservice teachers. Although it is often a temptation to wait to "spread the word" about products until the products are complete, in fact early dissemination can provide useful development ideas and can get people thinking about the project efforts before everything is cast in stone.

2. The trainer-of-trainers approach to dissemination seems to be the most economically feasible and effective method of disseminating information on products for low-incidence population groups such as visually impaired youngsters. Providing intensive and thorough training to key persons in low-incidence teacher preparation assures that the information resides with persons who presently have contact with teachers and who will continue to have contact after the project's conclusion.

Appendix A

PROJECT MAVIS PILOT TEST EVALUATION REPORT, PHASE ONE

PROJECT MAVIS VISUALLY IMPAIRED STUDENT PERCENTILE COMPARISONS-- UNADAPTED AND ADAPTED UNIT TESTS

Student Code	Student Media	Student Percentile-Unadapted Unit Test	Student Percentile-Adapted Unit Test$_1$	Change	Student Percentile-Adapted Unit Test$_2$	Change	Student Percentile-Adapted Unit Test$_3$	Change
HM2SW	RP	15	24	+9	64	+49		
HM4OC	LP	92	98	+6				
HM3SJC	LP	8	35	+27				
HM1SJC	LP	9	66	+57	24	+15		
HM3DC	B	17	75	+58				
HM5DC	B	59	3	-56	69	+10		
HM5DC	B	37	9	-28	54	+17		
HM4DC	B	24	16	-8	41	+17	75	+51
HM4DC	LP	10	52	+42	89	+79	31	+21
HM4CC	LP	17	60	+43	17	0		
HM5OC	LP	81	12	-69				
HM1SJC	B	67	67	0				
HM1SJC	LP	33	28	-5				
HM5SJC	RP	3	11	+8				
HM1DC	RP	74	18	-56				
HM5CC	B	55	52	-3				
HM5CC	LP	10	15	+5				
HM5CC	LP	20	4	-16				

PROJECT MAVIS VISUALLY IMPAIRED STUDENT PERCENTILE COMPARISONS--
UNADAPTED AND ADAPTED UNIT TESTS

Student Code	Student Media	Student Percentile-Unadapted Unit Test	Student Percentile-Adapted Unit Test$_1$	Change	Student Percentile-Adapted Unit Test$_2$	Change	Student Percentile-Adapted Unit Test$_3$	Change
HM5CC	LP	5	8	+3				
HM3SW	RP	11	4	-7				
HM5SW	LP	87	91	+4	100	+13		
HM2SW	LP	21	65	+24	75	+54	44	+23
HM2SW	LP	21	25	+4	75	+54	6	-15
HM3SW	T	90	65	-35				
HM1SW	T	9	10	+1	45	+36		
HM5OC	LP	100	71	-29				
HM2OC	LP	74	94	+20				
HM3OC	LP	21	7	-14	17	-4		
HM5LAC	LP	46	12	-34	6	-40	25	-21
HM5LAC	RP	18	4	-14	6	-12	63	+45
HM4LAC	B	98	54	-44	14	-84	81	-17
HM3EI	RP	93	34	-59				
HM3EI	RP	15	30	+15	26	+11		
HM6BC	LP	12	40	+28	13	+1	30	+18
HM5BC	LP	77	60	-17	91	+14		
HM4BC	B	57	85	+28	80	+23	90	+33
HM4OC	LP	42	43	+1	23	-19	8	-34

Preliminary Draft

Project Mavis Pilot Test Evaluation Report, Phase One

This preliminary draft reflects much of what will be contained in a more complete report on phase one of the MAVIS Project. It is anticipated that a finalized report on phase one will be submitted within 90 days.

Introduction

The pilot test evaluation of Project MAVIS was designed to collect information about the usefulness of the MAVIS materials adaptations. The data collected to assess this usefulness were of three types: (1) gains in cognitive knowledge made by visually impaired and sighted students using the MAVIS adaptations of standard classroom materials; (2) factual statements regarding teacher implementation methods and student use of the materials; and (3) student and teacher attitudes toward the MAVIS adaptations.

The three types of pilot test data identified above were collected on adaptations of units from grade levels 1, 2, and 5 of the Houghton Mifflin series Windows on Our World, units from grade levels 3, 4, and 6 of of the Silver Burdett Social Science series, and two "hands-on" kits--Ashanti Family of Ghana and Paddle-to-the-Sea. Similar methods of adaptations were used for kit and textbook materials. However, adaptation methods varied between primary and intermediate grades because of the heavy dependence of the primary materials on pictures and other illustrations. Alternative means of conveying information embodied in pictures were thus a more significant adaptation consideration in the primary materials. The following report is therefore divided into sections analyzing data collected for primary and intermediate students.

Primary Grade Level Adaptations

Ashanti Family of Ghana Kit Adaptations. The hands-on kit adapted at the primary level was the Ashanti Family of Ghana kit from The Family of Man social studies program published by Selective Educational Equipment, Inc. When used with sighted students, teaching of the kit relies heavily on use of filmstrips, study prints, and other visual aids, as well as hands-on artifacts. Major adaptations made by Project MAVIS included development of brailled and taped descriptions of filmstrip frames and study prints, provision of strategies for integrating picture descriptions into regular class discussions, and development of a three-dimensional modeling activity to replace a two-dimensional mapping activity. Selected story books from the kit were produced in braille and/or tape, and frequently used maps were produces in tactile form.

The adapted Ashanti kit was pilot tested with a total of 21 visually impaired students in five residential classrooms in the states of Colorado, New Mexico, and Texas. No mainstream classrooms (and thus no sighted students) tested the kit. Students completed a 20-item pretest-posttest instrument designed to measure cognitive gains resulting from the instruction. Teachers and students completed a posttest questionnaire designed to gather objective information about the actual classroom use of the MAVIS materials and to elicit opinions (attitudes) about the materials.

Cognitive Gain Results. Sixteen of the 21 visually impaired students completed both pretest and posttest 20-item cognitive gain instruments. Mean pretest scores for braille and large print students were 60 and 65 percent respectively, with posttest means of 70 percent for both groups (see Table 1).

Table 1
Ashanti Kit: Group Means for Twenty-Item Cognitive Gains Test

	-Type of Student-	
	Large Print (n=7)	Braille (n=9)
Pretest mean	65%	60%
Posttest mean	70%	70%

The odd-even split-half reliability of the 20-item cognitive gains test was estimated on the nonbraille posttest instruments by a Spearman's Rho (corrected for ties) at .42. This low estimate of reliability is attributed to the homogeneity of the respondent group and the shortness of the test.

Use Results. Information on how the kit was used was collected from both students and teachers.

Only one of the five classes used the three-dimensional modeling activities suggested in the kit adaptations. Both students and teachers in this class indicated that the activities worked very well. The remaining four teachers indicated that they did not have sufficient time to "make preparations and assemble materials" for these activities. All five of the teachers indicated that they used "other tactile maps or globes (besides the tactile maps included in the kit) to teach (their) visually impaired children geography skills."

Four of the five teachers responded that they used the taped filmstrip descriptions during class time, and three indicated they did so with the entire class. Three of the teachers said that they would like to have other parts of the Ashanti kit taped, and two felt they would like additional kit materials brailled.

Attitude Results. Selected items of both the student and teacher's feedback forms were judged to be both clearly attitudinal in nature and objectively scorable. Considering these items as a single discrete test of attitude toward the MAVIS adaptations of the Ashanti kit, an estimate of odd-even split half reliability (Rho, corrected for ties) was calculated at .42. It is again felt that this rather low reliability is due primarily to the length of the "test" (only five items in this case) and to a lesser extent to the homogeneity of the respondent group. The reliability of the teacher's attitude assessment was calculated by a Spearman's Rho corrected for ties at r=.40.

Student responses to the attitude items clearly indicate that the great majority of braille students felt that learning about the Ashanti people was fun. In fact, 11 of the 14 braille students indicated that "Learning about the Ashanti people was fun." Only one student indicated that it was boring. Of the seven large print students completing this item, 43 percent agreed with the braille students that learning about the Ashanti was fun.

In assessing the effectiveness of the adapted Ashanti kit, one of the adaptors major concerns was the students' responses to the picture descriptions provided. Both brailled and taped descriptions of the filmstrip frames and study prints used in the Ashanti kit, along with suggested strategies for integrating picture descriptions into regular class discussions, were included as a part of the MAVIS adaptations. All of the large print students (100 percent) and 86 percent of the braille students indicated that they usually understood the content of filmstrip pictures and study prints. Only one large print student and no braille students indicated that they felt the taped or brailled descriptions of the filmstrip pictures and study prints failed to "tell enough." Most braille students (57 percent) felt that listening to the teacher or other students was "most helpful" in deciphering the content of the filmstrip pictures, while more large print students felt that listening to the taped descriptions of the pictures was most helpful.

Turning to the attitude assessment items contained on the teacher feedback qudstionnaire, it is evident that most teachers felt positive about teaching the MAVIS adaptations of the Ashanti kit. Three of the five responding teachers indicated that the experience was "fun" and two said it was "OK." Three of the five teachers indicated that they felt using the alternative teaching strategies in the adapted kit was "fun for everybody." One teacher failed to respond to this item, and the remaining teacher indicated that "it was fun for all the children but a lot of work for me."

All five teachers who used the kit indicated that they felt the adaptation strategies provided for the lessons in the kit were "generally sufficient," that the number of alternative teaching strategies was "about right," and that such alternative teaching strategies contained "about the right amount of detail."

Ashanti Kit Summary. This kit was pilot tested only in residential schools. Generally, the visually impaired students located in these schools reacted quite favorably to the kit. Cognitive gains were modest for both types of students using the kit (a 10 percent gain for braille students, and a 5 percent gain for large print students). Teachers generally liked the adapted activities supplied with the kit, and a majority of the teachers indicated that they would like to use additional materials of this type.

Textbook Adaptations. Units from Houghton Mifflin's series, Windows on Our World, grade levels 1 and 2 and the Silver Burdett Social Science series grade level 3 were the textbook materials adapted for pilot testing at the primary level. The units tested from these texts ranged from 22 to 40 pages in length and focused on the following topics: grade 1 - Using Space; grade 2 - Depending on the World; and grade 3 - Our World (geographic concepts). Adaptation of the teacher's guides by Project MAVIS resulted in the addition of a variety of activities providing hands-on and participatory experiences. Strategies for dealing with visual materials were also presented.

Student materials were provided in braille and tape at all three grade levels. Only the third grade unit was produced in large print; the print in the first and second grade texts was already sufficiently large. Adaptations of student materials included provision of picture descriptions in the braille and taped texts, inclusion of tactile maps within the braille texts when appropriate, and provision of a list of new vocabulary words in the texts in all three media. At the first and second grade levels, the picture descriptions in the braille text were kept quite brief to accommodate students' limited reading vocabulary. The taped descriptions were expanded to provide more information. Several options for using the taped descriptions with the entire class were suggested to the teacher.

Cognitive Gain Results. Cognitive gains of students using these standard hardcover textbooks were assessed by the publisher's usual unit tests deployed in a pretest-posttest format. Students using the adapted selections from grade level 1 of Windows on Our World did not complete the cognitive gains posttest as planned.* While attitude and usage data are available for this level, no assessment of cognitive gains for this group is possible. Pretest-posttest means representing group gains in cognitive knowledge as measured by the standard unit tests of the textbook selections adapted for grade levels 2 and 3 are displayed in Table 2 on the following page.

As the table shows, visually impaired as well as sighted students made gains in cognitive learning which may be attributed to the effect of instruction. While visually impaired students at the second grade level far outstripped their sighted classmates, such performance was not continued in the third grade. Several factors may have contributed to the smaller gain at the third grade level. First, only one class tested the third

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*The teacher of the first grade class participating in the pilot test was unable to attend the teacher training session held in her school district (Albuquerque, NM). Because of the distance involved, an individual training session could not be scheduled. Instead, the itinerant teacher conducted the teacher training. This arrangement caused some confusion which resulted in the teacher's failure to administer the cognitive pretest.

Table 2
Hardcover Materials: Group Means for Visually Impaired and Sighted Students at Grade Levels 2 and 3

			Type of Student	
			Visually Impaired	Sighted
Grade Level	Two	Pre	58	85
			(n=4)	(n=30)
		Post	93	91
	Three	Pre	50	65
			(n=3)	(n=30)
		Post	52	73

grade materials, so the results may have been due to certain class or teacher characteristics. The fact that the class included three visually impaired students may also have had an impact on the way the adaptations were used and their effectiveness. The content of the third grade unit, which stressed geographical concepts, may have been more difficult and/or unfamiliar to the visually impaired students in the pilot test than was the content in the second grade unit, which dealt with people's dependency on each other and the natural environment. Finally, the MAVIS adaptations of the third grade unit may have been less effective.

Off-even split-half reliabilities (Spearman's Rho corrected for ties) calculated on the posttests were .54 and .64 for the second and third grades respectively. Larger reliability estimates for these instruments would probably be obtained with a more varied respondent group and a test-retest estimation procedure.

Use Results. Four primary-level teachers were involved in the pilot test evaluation of the MAVIS adaptations. These teachers were asked to respond to questions concerning use of MAVIS adaptations of student materials, especially use of the taped texts.

Three of these four teachers indicated that they used the taped picture and map descriptions provided by Project MAVIS. Two teachers indicated that their visually impaired students used the cassette tape provided by MAVIS while the remaining two teachers indicated that their entire class used the tape. Three of the four teachers reported that their visually impaired students used the word lists provided.

Teachers were also asked to compare their reliance on the vision resource or itinerant teacher before and during use of the MAVIS adaptations. Two of the teachers responded that their reliance was reduced during use of the adaptations, and two indicated that it remained about the same.

Information on use gathered from students was confined to use of the taped texts in their classes. A majority of the students reported that the teacher used the audiotape with the entire class. Several open-ended comments from students indicated that they did not like this procedure.

Attitude Results. Student attitude data were collected on three items of the student feedback form. Of the students completing these items, 67 percent indicated that they felt using the materials was "fun," 23 percent said it was "OK," and 10 percent said it was "boring." All of the students answering the attitude item about the maps contained in the unit indicated that they felt they were fun to use, and 62 percent of the students said that they liked the tapes of the textbook.

The odd-even split-half reliability for these three items was calculated by a Spearman's Rho corrected for ties at -.09.

The teacher feedback form for the primary level textbook adaptations was a 60-item instrument which contained six items judged to be factual report of actual materials used, and 54 items designed to elicit evaluative perceptions and judgments. Depending upon the teacher's grade level, the type of visually impaired student taught, and certain options in material implementation, a number of the 54 items were determined by the respondent to be not applicable. In some specific instances, up to 30 of the 54 items were not applicable. The odd-even split-half reliability of the attitude portion of the teacher feedback form was calculated by a Spearman's Rho at .35. While a sufficient number of items were present to reasonably expect a somewhat higher reliability, it should be noted that the variability of the obtained scores was depressed artifically by the large number of inapplicable items and the homogeneity of the respondent group. Low variability, in this case, is related to the low estimate of reliability.

Teachers were asked several questions about their attitudes toward the adapted student materials, particularly the taped texts and the picture descriptions included in the tapes. The teachers unanimously agreed that these taped descriptions had about the right level of oral vocabulary, were of the correct length for the students' attention spans, and contained about the right amount of detail. Two of the three teachers felt that the tapes were "very useful," and the remaining teacher indicated that they were "somewhat" useful. Three of the four teachers indicated that they felt it was helpful to have vocabulary lists in the text, and all were pleased with the location of the lists in the text.

Teachers were also asked to respond to questions concerning the MAVIS adaptations of the teacher's guides which accompany the student materials. In response to these questions, all four teachers indicated that they felt there were just about the right number of alternative strategies, that the degree of adaptation was "just about right," and that the alternative strategies "helped integrate the visually impaired student into class activities."

Favorable reactions from the teachers were registered regarding the inclusion of specific teaching techniques in the special introduction provided with the adapted teacher's guides. Specifically, the techniques given for developing observation skills and for describing pictures were judged by half of the four respondents to be "almost always useful," and by the other half to be "sometimes useful." Techniques given for developing discussion and questioning skills, and for using pictures and illustrations with partially sighted students were judged "almost always useful" by one teacher, and "sometimes useful" by the remaining three. Only three teachers responded to the final two attitude questions. For these two items, all three teachers indicated that they felt the slipsheet format was "very useful," and two of the three indicated that they felt the teaching techniques included by MAVIS were "almost always useful in integrating the visually impaired student into role playing, field trips, and other group activities."

Primary Level Hardcover Summary. Pilot testing of MAVIS-adapted hardcover textbooks at the primary grade level was conducted in regular classrooms with one or more visually impaired student members. Cognitive gains of the visually impaired students were mixed. Results for the first grade were not available. At the second grade level, visually impaired students showed gains almost six times that of their sighted classmates.

At the third grade level, visually impaired students gained less than their sighted classmates.

Students' attitudes toward using these textbooks were generally favorable. Almost 70 percent felt that the adapted activities were fun. Teachers also reported attitudes that were generally positive toward the major features of the MAVIS adaptations.

Intermediate Grade Level Adaptations

Paddle-to-the-Sea Kit Adaptations. The hands-on kit adapted for intermediate-level students was Paddle-to-the-Sea from the MATCH Program. The kit uses a story and filmstrip about a carved canoe traveling through the Great Lakes to develop a number of social science concepts. Many hands-on artifacts and supplemental audiovisual materials are used in the kit. Development of a Great Lakes collage is a major activity in the kit. Major MAVIS adaptations of the kit included presentation of strategies for use of audiovisual materials, provision of a braille copy of the central story, complete with tactile maps and descriptions of the filmstrip frames, and development of a three-dimensional adaptation of the collage activity.

Pilot testing of the Paddle adaptations took place in two mainstreamed classes in Colorado, and in three residential schools located in New Mexico, Texas, and Colorado. Students completed a 20-item pretest-posttest instrument designed to measure cognitive gains resulting from instruction, and both students and teachers completed feedback forms designed to provide factual information about the use of the kit and to elicit statements representing attitudes toward the materials.

The two mainstreamed classes, one of which was team-taught by two teachers, each contained one visually impaired student. These classes had a total of 79 sighted students and two visually impaired students, one of whom was a regular print reader, and the other a large print reader. The three residential schools provided a pool of 25 visually impaired students; 12 were large print readers, and 13 were braille readers.

Cognitive Gain Results. Gains in knowledge measured by the 20-item pretest-posttest instrument were compared for a random sample of 30 of the 79 sighted students and all 20 of the visually impaired students who completed both the pretest and the posttest. The results of this comparison are displayed in Table 3.

Table 3

Cognitive Gains of Visually Impaired vs Sighted Students Using Paddle-to-the-Sea

	Type of Student	
	Visually Impaired	Sighted
Pretest	52%	68%
	(n=20)	(n=30)
Posttest	79%	81%

As can be seen in the table, visually impaired students made an average gain of 27 percent in their test scores, while sighted students gained only 13 percent on average. These data show that the visually impaired students made over twice the level of gain experienced by their sighted counterparts. The odd-even split-half reliability of the test was estimated by a Spearman's Rho corrected for ties at .24 (calculated on the posttests of the sighted students). This estimate of reliability would undoubtedly have been higher for a group of scores showing greater variation.

Use Results. Questions concerning the use of the Paddle kit were asked of both students and teachers. Questions directed toward students focused on the students' involvement in the lessons, use of maps, and use of picture descriptions.

Feedback concerning use of the Paddle kit showed that 70 percent of the sighted students said that they felt they knew what was going on while the class was doing the lessons "almost all the time," while 27 percent said they "sometimes" didn't know what was going on, and one of the 30 students (3 percent) said that they "hardly ever" knew what was going on.

Visually impaired students who were large print readers said they knew what was going on "almost all the time (46 percent). Thirty-nine percent said that sometimes they did not know what was going on, and 15 percent said that they hardly ever knew what was going on. Eighty-five percent of the braille students said that they knew what was going on "almost all of the time," and only 15 percent said that they "sometimes didn't know what was going on."

Results regarding the use of maps are comparable for sighted students, braille readers, and large print readers, with a majority of the students in all three groups reporting that they did not use the maps in the kit.

In regard to the use of pictures and picture descriptions in the kit, 77 percent of the braille students indicated they they felt they could tell what the filmstrip pictures were about, while 23 percent said they could not. Fifty-four percent of the braille students indicated that they used the brailled descriptions of the filmstrip pictures. The 46 percent who did not, said that either they were "too hard to be read," that they "didn't have time" (8 percent), or that they felt they "didn't need to read the descriptions" (23 percent). Those braille students who did read the picture descriptions responded unanimously that they "told just about enough" to gain an understanding of the pictures. Thirty-eight percent of the braille respondents felt that the brailled picture descriptions were "most helpful" in telling what was shown in the pictures, and 46 percent said that listening to the teacher and other students was most helpful. Ninety-two percent of the large print readers said that they could usually figure out what the pictures in the kit filmstrips showed.

Teachers were also asked a set of questions about using various MAVIS-adapted components of the Paddle kit. Concerning use of the picture descriptions, four of the six teachers indicated that their visually impaired students did not individually read the descriptions which were provided. Perhaps this was because most of the teachers (83 percent) also indicated that they had often used (i.e., orally read) the picture descriptions provided with their copy of Paddle during the filmstrips and group reading.

Attitude Results. The results gathered from the two items on the student feedback form for Paddle were objectively scorable and clearly attitudinal in nature are displayed in Table 4 on the following page.

An inspection of Table 4 shows that the visually impaired students were somewhat more positive about using the Paddle kit than were their sighted counterparts. This was especially true of the braille students.

With regard to the maps, however, slightly more than twice as many visually impaired students as sighted students felt that the maps were "sort of hard" to use. This result is consistent with the percentage of responses for each group saying that using the maps was "pretty easy."

Table 4

Sighted vs Visually Impaired Students' Attitudes Toward Paddle-to-the-Sea

	Type of Student		
Question:	Braille (n=13)	Large Print (n=13)	Sighted (n=30)
1. Learning about Paddle's trip was:			
(a) Fun	85%	69%	63%
(b) OK	15%	31%	30%
(c) Boring	-	-	7%
total	100%	100%	100%
2. Using the maps was:			
(a) Too hard	-	-	-
(b) Sort of Hard	15%	15%	7%
(c) Pretty easy	23%	31%	37%
(d) Don't know; didn't use them	46%	54%	56%
total	84%[a]	100%	100%

a. Two braille students did not respond to this item.

The odd-even split-half reliability estimate of the two-item attitude scale was $r_s = .13$ (Spearman's Rho corrected for ties calculated on the post-test instruments of the visually impaired students).

The six pilot test teachers were also asked attitudinal questions about the _Paddle_ adaptations. The 24-item Teacher Feedback Form completed by the teachers contained ten objectively scorable, clearly attitudinal items. These items assessed teacher's attitudes toward the adapted kit in general, toward the adapted teacher's guide, and toward the adapted student materials. All six field test teachers unanimously agreed that teaching the _Paddle_ kit was "fun." Four of the teachers checked that using the alternative teaching strategies was "fun for everybody," and two teachers checked that it was "fun for all the children, but a lot of work for me." The three teachers who had regular classes which contained a visually impaired student all stated that they felt the MAVIS adaptations had facilitated the mainstreaming (integration) of their special student.

With regard to the adapted teacher's guide, all six teachers indicated that they felt the slipsheet format for the adaptations was "useful." All six also responded that there were about the right number of adaptations provided, and that the strategies had about the right amount of detail. Finally, five of the six teachers indicated that they felt that the adaptations provided for the lessons in the Paddle kit were "generally sufficient." One teacher (from a residential school) said that most of the lessons did not need so much adaptation.

In addressing the adapted student material, 67 percent of the teachers indicated that they felt the picture descriptions included in the adaptations were "very useful," and the remaining 33 percent said that they were "somewhat useful."

The odd-even split-half estimate of reliability for the ten-item attitude instrument was $r_s = .44$.

Paddle-to-the-Sea Kit Summary. The MAVIS adaptations of the intermediate grade level kit Paddle-to-the-Sea was pilot-tested in both mainstreamed and residential classes. Cognitive gains of the visually impaired students using the kit were over twice those of their sighted classmates. Attitudes of the visually impaired students toward the kit were much more favorable than the attitudes of the sighted students. Teachers generally felt that teaching the Paddle kit had been fun, and 75 percent of the teachers using the kit in regular classrooms with a mainstreamed student felt that the kit had aided the positive integration of their visually impaired student into the class.

Textbook Adaptations. Selections from the Silver Burdett Social Science series grade levels 4 and 6 and the fifth grade text from the Houghton Mifflin Windows on Our World series comprised the textbook materials adapted for pilot testing at the intermediate grade levels. The units tested from these texts ranged from 71 to 91 pages in length and focused on the following topics: grade 4 - Investigating People In Groups; grade 5 - The Modern United States; and grade 6 - Investigating Technology. Adaptations of the teacher's guides by Project MAVIS resulted in the addition of a variety of activities providing hands-on and participatory experiences. Strategies for adapting map activities were also stressed.

Student materials were provided in braille, tape, and large print. Adaptations of the student materials included provision of picture descriptions in the braille and taped texts, inclusion of tactile maps within the braille texts, and provision of a list of new vocabulary words in the texts in all three media.

Cognitive gains of students using the adapted selections from these texts were assessed by the publishers unit tests deployed in a pretest-posttest format. Attitude and usage data were assessed simultaneously in student or teacher feedback questionnaires.

Project MAVIS adaptations of the fourth-grade text were pilot tested in two fourth-grade classes which each contained a mainstreamed visually impaired student.

At the fifth-grade level, a total of four visually impaired students in three mainstreamed classes participated. In the sixth-grade, eight classes, each containing a visually impaired student, participated in the field test.

Cognitive Gain Results. At grade 4 students completed a 20-item pretest-posttest instrument (the unit test) designed to measure gains in knowledge resulting from instruction. The mean gain of the two visually impaired students was 22 percent and that of a random sample of 30 of the sighted students was 20 percent (see Table 5). The split-half off-even estimate of reliability calculated on the posttests of the sighted students using a Spearman's Rho corrected for ties was r_s=.37.

Table 5

Cognitive Gains of Sighted vs Visually Impaired Students
Using the Hardcover MAVIS Adaptations:
Intermediate Grade Level

	Type of Student					
	Visually Impaired			Sighted		
	Pretest		Posttest	Pretest		Posttest
Grade 4	48%	(n=2)	70%	50%	(n=30)	70%
Grade 5	65%	(n=4)	83%	63%	(n=30)	68%
Grade 6	70%	(n=8)	84%	67%	(n=30)	75%

A mean cognitive gain of 18 percent was registered for the visually impaired students in grade 5, while a random sample of 30 of their sighted classmates showed a mean gain of only 5 percent. The odd-even split-half reliability of the 55-item test used to assess these gains was r_s=.86 calculated on the posttests of the sighted students using a Spearman's Rho corrected for ties.

In the sixth grade, mean cognitive gains for the eight visually impaired students was 14 percent and that of their sighted classmates was 8 percent. The split-half odd-even reliability of the 25-item instrument used to measure these gains was estimated by a Spearman's Rho corrected for ties on the posttest instruments of the sighted students at r_s=.64.

Use Results. Information gathered from students about use of the textbook adaptations centered on the taped text, maps, picture descriptions, and large print format.

Forty-seven percent of the sighted students reported that their teacher used the tape with the entire class. The majority of the large print and braille students (60 percent and 67 percent respectively) said that they never used the taped.

As for technical aspects of the various media presented, the visually impaired students, the majority (60 percent) of the large print students felt that the size of the print used in their books was "just right," and all of them agreed that it was "clear."

Braille students unanimously indicated that the picture descriptions included in their books "helped" them, and all said that they were "about right" in length. Sixty-seven percent said they "never" used the word lists and indicated that they did not like marking their answers on the same page that contained the questions, an option provided in the MAVIS transcription of the publishers' tests.

Considerable use information was gathered from teachers about various aspects of the intermediate-level adaptations, in particular the use of the taped picture descriptions, tactile illustrations provided in the braille text, word lists added to the texts in all media, and technical quality of the various media.

Regarding the taped text, seven of 14 teachers indicated that they did not use the descriptions provided on the tape. The majority of the teachers who used the tapes (72 percent) rated their quality as excellent.

When questioned about the use of the tactile illustrations in the braille text, seven of the nine teachers with braille readers responded that their students did not use the illustrations.

Of the eight teachers responding to questions about the use of the braille and large print word lists provided in the adaptations, 88 percent said that their visually impaired students used the word lists. Concerning the use of these same word lists in the taped text, most teachers (79 percent) responded that their students did not use the lists.

Teachers who had large print students were asked questions about the illustrations and print quality in the enlarged version of the texts. Of the five teachers responding to these questions, 60 percent indicated that they felt their student could see the pictures in the text "somewhat clearly." Forty percent felt that their visually impaired student could see the maps "not at all clearly." Sixty percent felt that lack of color might be a problem, and three of the five teachers (60 percent) said that they felt the illustrations in these texts were better than previously encountered illustrations. All of the teachers said that the large print type had spacing that was "just right," that the letters were "clear," and that the lines of type were spaced "just right."

The final question assessing use asked teachers to compare their degree of reliance on the vision resource or itinerant teacher prior to and during use of the MAVIS adaptations. Nine of the ten respondents indicated that during use of the adaptations their reliance was either less than or about the same as it had been prior to use of the adaptations.

Attitude Results. Student attitude data were collected on three items of the Student Feedback Form. The results of these data are summarized and presented in Table 6 on the following page.

As can be seen in the Table, all visually impaired students, regardless of their media, rated the materials as being more "fun" than did their sighted counterparts. Visually impaired students using the large print versions of the units seemed to like the maps more than any other group, while the visually impaired regular print readers registered the most favorable response toward the taped. The odd-even split-half reliability estimate for the three items used as an index of student attitude calculated on the sample of sighted students by a Spearman's Rho corrected for ties was $r_s = .54$.

Table 6

Student Attitudes Toward the Intermediate Level MAVIS Adaptations of Hardcover Materials

	Type of Student			
Items:	Braille (n=3)	Large Print (n=5)	Regular Print (n=2)	Sighted (n=30)
1. This unit is:				
(a) Fun	67%	60%	50%	30%
(b) OK	33%	40%	50%	60%
(c) Boring	-	-	-	10%
total	100%	100%	100%	100%
2. Do you like the maps in your book?				
(a) Yes, they were fun	67%	80%	50%	57%
(b) No, they were too hard	-	-	-	10%
(c) I didn't try to use them	33%	20%	50%	33%
total	100%	100%	100%	100%
3. Did you like the tape?				
(a) Yes			100%	40%
(b) No	NA[b]	NA	-	23%
total	NA	NA	100%	63%[a]

a. Several sighted students omitted this item.

b. NA = Not Available. (This item was not included on the forms for these students.)

Attitude information was also collected from the 14 intermediate-level teachers who participated in the pilot test. Fifty-four of the items on the 60-item Teacher Feedback Form administered at the end of the pilot test were judged to be both clearly objectively scorable. The odd-even split-half reliability estimate obtained on this group of instruments was calculated with a Spearman's Rho corrected for ties at r_s=.34.

All nine teachers having a student who read braille in their classroom responded that they felt the brailled picture descriptions included in the text helped to integrate the visually impaired student into the class activities. Eighty-six percent of these teachers said that their braille student could find the picture descriptions "fast enough to participate in discussion of the pictures," and most (67 percent) felt that the descriptions did not interrupt the flow of the student's text. Seventy-eight percent said that they felt the reading level was "about right," and all (100 percent) agreed that the descriptions were "about the right length."

Of the seven teachers who used the taped picture descriptions, all indicated that their visully impaired student was able to find the taped descriptions "with no problem," and six of the seven said that the tapes were "about right" in length, amount of detail, and listening level.

Seven of the pilot test teachers used specially prepared tactile illustrations with their braille students. Concerning these illustrations, 86 percent said that their students used the keys provided with the illustrations and could understand the content of the tactile illustrations. Fifty-seven percent of the teachers said that they felt the tactile illustrations had "about the right amount of detail." Of the two other teachers responding to this item, one thought the illustrations contained "too much" detail and the other "too little."

Eight of the teachers who had either a braille or large print reader in their class responded to items assessing the MAVIS-provided word lists. Sixty-three percent were happy with the placement of the lists at the beginning of the unit, and all eight (100 percent) said it was "helpful" to have these lists in the textbooks. Reactions concerning the helpfulness of these same lists in the taped text, however, were evenly split.

All 14 teachers responded to questions about the teacher's guide adaptations. Ten of the teachers (71 percent) felt that the number of alternative teaching strategies was "just about right," while 14 percent felt there were "too few" and 14 percent felt there were "too many." All of the teachers agreed that the degree of adaptation was "just about right," 57 percent felt that the alternative teaching strategies were "sometimes useful," and 36 percent said that they were "almost always useful."

Reacting to the teaching techniques included in the introduction to the adaptations, teachers said that the techniques for developing discussions and questioning skills were "almost always useful," (57 percent) or

Appendix F

TEACHER INTERVIEW SCHEDULE

(place ID label here)

PROJECT MAVIS

Teacher's Attitude Questionnaire

DIRECTIONS:

The purpose of this questionnaire is to gain some indication of your attitude toward your social studies class, the textbook you use, and the practice of mainstreaming students with special needs. Read each statement carefully and decide if you strongly agree, agree, disagree, strongly disagree, or are undecided. Mark your answer on the machine-scorable standard answer sheet which has been provided. Mark your answers according to this key:

(A) = Strongly Agree
(B) = Agree
(C) = Undecided
(D) = Disagree
(E) = Strongly Disagree

Mark your answers by darkening the space over the letter which best tells how you feel. If you change your mind, make sure you erase completely. (You may only mark one answer for each question.)

There are no right or wrong answers on this test. Please express only your own judgments and feelings.

THINKING OF THE CLASS IN WHICH YOU WILL USE THE PROJECT MAVIS MATERIALS:

1. Having the help of a resource or itinerant teacher is critical in the successful mainstreaming of a VI child.
2. The materials my VI student uses in social studies meets his/her learning needs.
3. The equipment my VI student has available in the classroom is sufficient to meet his/her needs.
4. As a group, this class is as intelligent as most.
5. This class is generally well-behaved.
6. A fair number of students in this class don't care very much about learning.
7. Most of the students in this class can do good work when they try.
8. I generally like the students in this class.
9. The textbook we use is sufficiently up-to-date.
10. The activities suggested in our textbook are interesting to most of the students.
11. The reading level of our textbook is too high.
12. The format of our textbook is very helpful to me.
13. The format of our textbook is very helpful to students.
14. The reading level of our textbook is too low.
15. Pictures are an important part of our textbook.
16. Charts and graphs are an important part of our textbook.
17. Tables are an important part of our textbook.
18. Maps are an important part of our textbook.
19. The content of our textbook is interesting to the students.
20. The content of our textbook is generally appropriate for my students.
21. Visually impaired students need special environments; they shouldn't ordinarily be placed in regular classrooms.
22. The practice of placing visually impaired students in regular classrooms is something I support.

23. In practice, placing visually impaired students in regular classrooms creates more work for the teacher.

24. Other students are sometimes neglected when visually impaired students are placed in regular classrooms.

25. Some of the needs of visually impaired students often go unmet when they are placed in regular classrooms.

26. I support the mainstreaming of all types of educationally handicapped children.

27. I feel certain types of educationally handicapped children are easier to mainstream than the visually impaired.

TEACHER INTERVIEW SCHEDULE

Teacher's ID#: ______________________________ Date: ________________________

Interviewer's name: ____

Permission obtained to tape interview? YES_____ NO_____
Footage meter reading at beginning of interview: ________________________

* *

Definitions:

()= a comment to the interviewer which is not to be read aloud will always appear within parentheses

ALLCAPS= questions or statements which must be read aloud *verbatim* to the teacher will appear in capital letters.

* *

Assumptions:

1. The interviewer and the T have been introduced.
2. Both parties are comfortable, seated, and in a relatively quiet spot where the interview will take place.

* *

Opening Statement of Purpose

THE PRIMARY PURPOSE OF PROJECT MAVIS IS TO AID IN INTEGRATING VISUALLY IMPAIRED STUDENTS INTO REGULAR CLASSROOMS. WE ARE COLLECTING SEVERAL KINDS OF DATA WHICH WILL HELP US DETERMINE HOW EFFECTIVE WE HAVE BEEN IN ACCOMPLISHING THIS GOAL. WE NEED YOUR COMMENTS TO HELP US REVISE ANY ACTIVITIES OR PROCEDURES WHICH YOU FEEL NEED ADDITIONAL REFINEMENT.

THIS IS A STRUCTURED INTERVIEW IN WHICH I AM REQUIRED TO ASK CERTAIN SPECIFIC QUESTIONS IN A PARTICULAR ORDER. CERTAIN RESPONSES TO QUESTIONS ARE LOGICALLY ANTICIPATED. THESE RESPONSES ARE CATEGORIZED IMMEDIATELY AFTER THEY ARE GIVEN. LET ME GIVE YOU A SIMPLIFIED EXAMPLE.

SUPPOSE A QUESTION WAS: *IS IT RAINING OUTSIDE RIGHT NOW?* MOST PEOPLE WILL ANSWER EITHER YES, NO, OR I DON'T KNOW, BASED UPON THE SENSORY INFORMATION THEY HAVE. IN ORDER TO SIMPLIFY THE INTERVIEW PROCESS, WE JUST CHECK THE BOX FOR THE RESPONSE GIVEN. IT SAVES HAVING TO WRITE DOWN WHAT IS SAID, AND SIMPLIFIES THE ANALYSIS OF THE INFORMATION WE GAIN IN THESE INTERVIEWS.

BEFORE WE BEGIN, YOU SHOULD KNOW THAT THE QUESTIONS USED IN THIS INTERVIEW HAVE NO RIGHT OR WRONG ANSWERS. SOMETIMES, THE PREDEFINED RESPONSE CATEGORIES FOR A QUESTION MAY NOT COVER THE ANSWER THAT IS GIVEN TO THAT QUESTION. WHEN THIS HAPPENS I'LL CHECK THE BOX FOR OTHER RESPONSES AND WRITE DOWN WHAT YOU HAVE SAID, OR RECORD THE QUESTION NUMBER AND YOUR RESPONSE ON THE TAPE SO THAT I CAN WRITE IT DOWN LATER.

(When the entire interview is being recorded with the T's permission, you may wish to just write down the place on the tape--i.e., the number of feet shown on the footage meter--where the response can be found. You should note, however, that this procedure will work only when you begin the interview at the beginning of the tape *and* set--should I say *remember* to set--the footage meter back to zero before you start recording. If you are not beginning a new tape, you must note the footage reading at the starting point of the interview, and this starting point footage number must be derived in the same way as it would for a question response.)

DO YOU HAVE ANY QUESTIONS BEFORE WE BEGIN?

_____yes (then answer them if you can)
_____no (go to 1)
_____T confused (repeat the introduction)

THE FIRST SET OF QUESTIONS IS ABOUT THE INTRODUCTION TO THE MAVIS-ADAPTED MATERIALS.

1. ARE YOU FAMILIAR WITH THE CONTENTS OF THE INTRODUCTION? (Show introduction to T.)

_____yes (go to 3)
_____no (then explain and show what you mean; go to 2)
_____unsure (then explain and show what you mean; go to 2)

2. (Nothing to read on this one; just check the appropriate response.)

_____T remembers now (go to 3)
_____T still uncertain (reexplain and go to 3)
_____T really doesn't understand (skip to #8)

3. WAS THE INTRODUCTION HELPFUL IN EXPLAINING THE USE OF THE PROJECT MAVIS-ADAPTED INSTRUCTIONAL MATERIAL?

_____yes
_____no
_____unsure
_____other:____

4. IN GENERAL, WAS THE INTRODUCTION HELPFUL AS AN AID TO TEACHING SOCIAL STUDIES IN A REGULAR CLASSROOM WHICH INCLUDES A VISUALLY IMPAIRED STUDENT?

_____yes
_____no
_____unsure
_____other: ____

5. SINCE YOU INITIALLY READ THE INTRODUCTION TO THE MAVIS-ADAPTED MATERIALS, HAVE YOU USED IT AS A REFERENCE FOR PARTICULAR STRATEGIES OR AVAILABLE RESOURCES?

_____yes
_____no
_____other: ____

6. I AM GOING TO READ A LIST OF SOME OF THE MAJOR SUGGESTIONS FOR TEACHING THE VI STUDENT IN THE REGULAR CLASSROOM WHICH WERE INCLUDED IN THE INTRODUCTION. WILL YOU INDICATE WHICH SUGGESTIONS YOU USED AND HOW HELPFUL THEY WERE? (Check off those used; indicate how helpful with code: VH--very helpful; H--helpful; NH--not helpful.)

USED	HELPFUL	
_____	_____	TIPS FOR MAKING DISUCSSION EASIER FOR VI STUDENTS
_____	_____	DEVELOPING STUDENTS' DISCUSSION AND QUESTIONING SKILLS TECHNIQUES FOR DESCRIBING PICTURES
_____	_____	ROLE-PLAYING STRATEGIES
_____	_____	ACTIVITIES FOR DEVELOPING LISTENING SKILLS
_____	_____	TECHNIQUES FOR DEVELOPING OBSERVATION SKILLS WITH ALL THE SENSES
_____	_____	TAKING FIELD TRIPS WITH THE VI STUDENT
_____	_____	DEVELOPING RESEARCH SKILLS
_____	_____	USING AUDIOVISUAL MATERIALS
_____	_____	USING MODELS
_____	_____	USING ILLUSTRATIONS
_____	_____	ADAPTING OR MAKING APPROPRIATE-MEDIUM ILLUSTRATIONS
_____	_____	INTEGRATING THE VI STUDENT INTO GROUP ACTIVITIES

7. DO YOU FEEL THE SUGGESTIONS HELPED INTEGRATE THE VI STUDENT INTO YOUR CLASSROOM?

_____yes, certainly
_____yes
_____unsure
_____no
_____other: ____

THE NEXT SEVERAL QUESTIONS ARE ABOUT THE ADAPTED TEACHER'S GUIDE.

8. DO YOU FEEL THE SLIPSHEET FORMAT OF THE MAVIS-ADAPTED TEACHER"S GUIDE "WORKED WELL?"

_____yes (go to 10)
_____no (go to 9)
_____unsure (go to 10)
_____other: ______________________________

9. WHY DO YOU FEEL THEY DIDN'T WORK WELL?

_____covered up the original text
_____made teacher's guide too fat
_____other: ______________________________

10. HOW OFTEN DID YOU USE THE IDEAS OR SUGGESTIONS CONTAINED ON THE SLIP-SHEETS?

_____all the time
_____most of the time
_____some of the time
_____a few times
_____other: ______________________________

11. DID YOU USE THE PRINT COPY OF THE PICTURE DESCRIPTIONS PROVIDED ON THE SLIPSHEETS?

_____yes (go to 12)
_____no (go to 14)
_____other: ______________________________
(go to ____; use your judgment)

12. WHEN DID YOU MOST OFTEN USE THE PICTURE DESCRIPTIONS PROVIDED ON THE SLIPSHEETS?...DURING PLANNING OR DURING CLASS?

_____during planning
_____during class
_____other: ______________________________

13. HOW DID YOU USE THE DESCRIPTIONS?

(specify): ______________________________

14. TURNING TO THE ADAPTED ACTIVITIES SUGGESTED BY PROJECT MAVIS, HOW OFTEN DID ALL OF YOUR STUDENTS USE AN ACTIVITY AS IT HAD BEEN ADAPTED?

_____67%-100% OF THE TIME (go to 16)
_____34%-66% OF THE TIME (go to 16)
_____1%-33% OF THE TIME (go to 16)
_____never (go to 15)
_____other: ______________________________
(go to ___; use your judgment)

15. WHY DIDN'T YOU USE THE ADAPTED ACTIVITIES?

_____didn't like them
_____didn't need them
_____required too much effort to time
_____adapted my own activities
_____other:____

16. WERE THE ADAPTED ACTIVITIES GENERALLY APPROPRIATE FOR YOUR STUDENTS' GRADE LEVEL?

_____yes
_____no, too hard
_____no, too easy
_____other:____

17. GENERALLY SPEAKING, WERE THE ADAPTED ACTIVITIES HELPFUL TO YOUR VI STUDENT?

_____yes
_____no
_____other:____

18. DO YOU FEEL THE ADAPTED ACTIVITIES ADEQUATELY TAUGHT YOUR VI STUDENT(S) SOCIAL STUDIES CONCEPTS AND SKILLS?

_____yes, both skills and concepts
_____yes, skills only
_____yes, concepts only
_____no
_____other:____

19. DO YOU THINK THE ADAPTED ACTIVITIES WERE HELPFUL TO YOUR SIGHTED STUDENTS?

_____yes, very definitely
_____yes, maybe
_____no
_____other:____

20. DO YOU FEEL THE ADAPTED ACTIVITIES HELPED INTEGRATE YOUR VI STUDENT INTO YOUR CLASSROOM?

_____yes, definitely
_____yes, maybe
_____no, probably not
_____no, not at all
_____other:____

21. WHICH OF THE FOLLOWING ADAPTED ACTIVITIES DID YOU USE AND HOW WELL DID THEY WORK? (Check off those used; indicate how well they worked with code: VW--very well; OK--okay; NVW--not very well.)

USED	WORKED	
_____	_____	DISCUSSIONS ADAPTED FOR THE VI STUDENT
_____	_____	ROLE PLAYING ADAPTED FOR THE VI STUDENT
_____	_____	ADAPTED MAP ACTIVITIES
_____	_____	FIELD TRIPS ADAPTED FOR THE VI STUDENT
_____	_____	RESEARCH ADAPTED FOR THE VI STUDENT
_____	_____	ACTIVITIES WHICH USED MODELS TO AID THE VI STUDENT
_____	_____	USING AUDIOVISUAL MATERIALS WITH ADAPTATIONS TO AID THE VI STUDENT
_____	_____	other:____

22. HOW OFTEN DID YOU ASK THE VISION RESOURCE OR ITINERANT TEACHER TO AID YOU IN PREPARING MATERIALS FOR A MAVIS-ADAPTED SOCIAL STUDIES LESSON?

_____0%-33% OF THE TIME
_____34%-66% OF THE TIME
_____67%-100% OF THE TIME
_____other:____

23. WAS YOUR USE OF THE VISION RESOURCE OR ITINERANT TEACHER INCREASED AS A RESULT OF USING THE MAVIS-ADAPTED MATERIALS?

_____yes, increased
_____no, the same
_____no, decreased
_____unsure
_____other:____

24. DID YOUR SOCIAL STUDIES PREPARATION TIME INCREASE DURING USE OF THE MAVIS-ADAPTED MATERIALS?

_____yes, but acceptable
_____yes, not acceptable
_____no, stayed same
_____no, decreased
_____unsure
_____other:____

25. WITHOUT USE OR KNOWLEDGE OF MAVIS ADAPTATIONS WOULD YOU HAVE MADE SIMILAR ACTIVITY ADAPTATIONS TO AID IN INTEGRATING THE VI STUDENT INTO YOUR CLASSROOM?

_____yes, definitely
_____yes, maybe
_____no
_____unsure
_____other:____

26. DO YOU FEEL PROVIDING ADAPTED ACTIVITIES INCREASES THE REGULAR CLASSROOM TEACHER'S EFFECTIVENESS IN TEACHING THE VI STUDENT STANDARD SUBJECT MATTER ALONG WITH THE REST OF THE STUDENTS?

_____yes, definitely
_____yes, maybe
_____unsure
_____no, not at all
_____other: ____

THE NEXT SEVERAL QUESTIONS ARE ABOUT THE MAP PACKET PROVIDED BY PROJECT MAVIS.

27. HOW OFTEN DID YOU USE THE MAP PACKET PROVIDED BY PROJECT MAVIS?

_____every time use was recommended in the adaptations (go to 29)
_____most of the time use was recommended in the adaptations (go to 29)
_____some of the time use was recommended in the adaptations (go to 29)
_____hardly ever or never (go to 28)
_____other: ____
(go to ___; use your judgment)

28. WHY DIDN'T YOU USE IT MORE OFTEN?

_____don't teach with maps usually (go to statement above #31)
_____VI student didn't need them (go to statement above #31)
_____VI student didn't like them (go to statement above #31)
_____they were a problem to use (go to statement above #31) WHY:_____
____
_____other: ____

29. DID THE VI STUDENT USUALLY USE THE ADAPTED MAPS ALONE OR AS A PART OF A SMALL GROUP?

_____alone
_____small group
_____other: ____

30. WAS THE VI STUDENT'S ABILITY TO PARTICIPATE IN MAP-CENTERED ACTIVITIES ENHANCED AS A RESULT OF USING THE ADAPTED MAPS PROVIDED BY PROJECT MAVIS?

_____yes
_____no
_____unsure
_____other: ____

THE REMAINING QUESTIONS VARY ACCORDING TO THE TYPE OF MATERIAL MOST OFTEN USED BY YOUR VISUALLY IMPAIRED STUDENT.

31. IS YOUR VISUALLY IMPAIRED STUDENT'S PRIMARY MEDIUM BRAILLE, LARGE PRINT, REGULAR PRINT, OR TAPE?

_____braille (go to 32)
_____large print (go to 40)
_____regular print (go to 40)
_____tape (go to 53)
_____other: ____

(note: If the teacher has two VI students who have different media, ask the series of questions to one student and then ask the series of questions for the other. If the teacher has two students who use the same medium, differentiate responses for the two students by designating each with a letter of the alphabet. (Suggest using B1, B2 for Braille; L1, L2 for Large Print; R1, R2 for Regular Print; and T1, T2 for Tape.)

32. DO YOU KNOW IF YOUR BRAILLE-READING STUDENT USED THE BRAILLED WORD LISTS INCLUDED IN THE TEXT?

_____yes, he/she did for sure (go to 34)
_____yes, think he/she did (go to 34)
_____unsure (go to 36)
_____don't think he/she did (go to 33)
_____sure he/she did not use them (go to 33)

33. DO YOU KNOW WHY HE/SHE DIDN'T USE THEM?

_____he/she didn't like them (go to 36)
_____he/she didn't need them (go to 36)
_____he/she couldn't read them (go to 36)
_____he/she couldn't understand them (go to 36)
_____other:____

34. DO YOU FEEL THE BRAILLED WORD LISTS HELPED YOUR VI STUDENT DEVELOP THE NEW VOCABULARY?

_____yes
_____no
_____unsure
_____other:____

35. DO YOU FEEL THE WORD LISTS HELPED INTEGRATE THE VI STUDENT INTO THE CLASS?

_____yes
_____no
_____unsure
_____other:____

36. DO YOU KNOW IF YOUR BRAILLE STUDENT READ THE PICTURE DESCRIPTIONS WHICH WERE INCLUDED IN THE TEXT?

_____yes, he/she did (go to 38)
_____no, he/she didn't (go to 37)
_____unsure (go to 40)
_____other:____
(go to ____; use your judgment)

37. DO YOU KNOW WHY HE/SHE DIDN'T USE THEM? (Go to 40; all options.)

_____he/she used the tapes instead
_____he/she had trouble finding them
_____he/she had trouble reading them. WHY?: reading level, length, poor reading (circle and or specify)_____
_____he/she listened to the descriptions given in class
_____other:_____

38. WAS YOUR VI STUDENT ABLE TO FIND AND READ THE BRAILLE PICTURE DESCRIPTIONS FAST ENOUGH TO PARTICIPATE IN DISCUSSIONS OF THE PICTURES?

_____yes, all of the time
_____yes, most of the time
_____no, not usually
_____no, never
_____other:_____

39. DO YOU FEEL THE INCLUSION OF THE PICTURE DESCRIPTIONS IN YOUR BRAILLE STUDENT'S TEXT INCREASED HIS/HER LEVEL OF PARTICIPATION IN CLASS DISCUSSIONS?

_____yes, definitely
_____yes, probably
_____no, probably not
_____no, definitely not
_____other:_____

(Questions 40-48 refer to VI students using braille, large print, or regular print.)

40. DID YOUR STUDENT USE THE TAPES PROVIDED BY PROJECT MAVIS?

_____67%-100% OF THE TIME (go to 42)
_____34%-66% OF THE TIME (go to 42)
_____1%-33% OF THE TIME (go to 41)
_____no, not at all (go to 41)
_____other:_____
(go to ____; use your judgment)

41. DO YOU HAVE ANY IDEA WHY HE/SHE DIDN'T USE THEM?

_____the recorder was broken, or the tapes were lost or destroyed (go to 49 for rp or lp, go to 62 for braille)
_____the whole class used them (go to 42 and check ✓ that response)
_____he/she didn't like the tapes (go to 49)
_____he/she thought he/she wasn't supposed to use them (go to 49 for rp or lp, go to 62 for braille)
_____ I didn't offer that option (go to 49 for rp or lp, go to 62 for braille)
_____other:_____
(go to 42 or 49 or 64 depending on response)

42. DID THE VI STUDENT USUALLY USE THE TAPES ALONE, WITH PART OF THE CLASS, OR WITH ALL OF THE CLASS?

_____usually alone (go to 44)
_____usually as a part of a small group (go to 43)
_____usually as a part of the whole class (go to 43)
_____other:____

43. DID STUDENTS OTHER THAN YOUR VISUALLY IMPAIRED STUDENT BENEFIT FROM USE OF THE TAPES?

_____yes
_____no
_____other:____

44. WAS THE USE OF THE TAPES DIFFICULT TO MANAGE?

_____yes WHY?____
_____no WHY?____
_____sort of WHY?____
_____other:____

45. IN YOUR OPINION, DID INCLUDING PICTURE DESCRIPTIONS ON THE TAPE OF THE TEXT HELP YOUR VI STUDENT PARTICIPATE IN CLASS DISCUSSIONS WHICH CENTERED AROUND PICTURES?

_____yes, definitely
_____yes, probably
_____no, probably not
_____no, definitely not
_____other:____
(go to ____; use your judgment)

46. DID YOUR VI STUDENT LISTEN TO OR USE THE WORD LISTS WHICH WERE INCLUDED ON THE TAPES?

_____yes
_____no
_____unsure
_____other:____

47. IN YOUR OPINION, WAS IT USEFUL TO HAVE THE WORD LISTS INCLUDED ON THE TAPES?

_____yes, definitely useful
_____yes, probably useful
_____no, not very useful
_____no, not at all useful
_____other:____

48. DID THE TAPES HELP INTEGRATE YOUR VI STUDENT INTO THE CLASS?

_____yes, definitely
_____yes, probably
_____no, not much
_____no, not at all
_____other:____

(Go to 62 for braille students. Questions 49-52 refer to large print and regular print readers.)

49. DO YOU KNOW IF YOUR VI STUDENT USED THE WORD LISTS INCLUDED IN THE PRINT TEXT?

_____yes, he/she did for sure (go to 51)
_____yes, think he/she did (go to 51)
_____unsure (go to 50)
_____don't think he/she did (go to 50)
_____sure he/she did not use them (go to 50)

50. DO YOU KNOW WHY HE/SHE DIDN'T USE THEM? (Go to 62 all options)

_____he/she didn't like them
_____he/she didn't need them
_____he/she couldn't read them
_____he/she couldn't understand them
_____other:____

51. DO YOU FEEL THE WORD LISTS HELPED YOUR VI STUDENT DEVELOP THE NEW VOCABULARY?

_____yes
_____no
_____unsure
_____other:____

52. DO YOU FEEL THE WORD LISTS HELPED INTEGRATE THE VI STUDENT INTO THE CLASS?

_____yes
_____no
_____unsure
_____other:____

(Go to 62 for regular print and large print students. Questions 53-61 refer to students whose primary medium is tape.)

53. DID THE VI STUDENT WHOSE PRIMARY MEDIUM IS TAPE USE A PRINT MEDIUM FOR REFERENCE IN CLASS DISCUSSIONS?

_____yes, braille (go to 55)
_____yes, large print (go to 55)
_____yes, regular print (go to 55)
_____no, no reference was used (go to 55)
_____no, the tape was used for reference (go to 54)

54. DID ONLY THE VI STUDENT USE THE TAPE IN CLASS OR WAS THE TAPE PLAYED TO OTHER STUDENTS AS WELL?

_____only VI (go to 58)
_____small groups (go to 56)
_____whole class (go to 56)
_____other:____
(go to 56 or 58; use your judgment)

55. DID YOU USE THE TAPE WITH OTHER STUDENTS AS WELL AS THE VI STUDENT?

_____yes, with the whole class (go to 56)
_____yes, with small groups (go to 56)
_____no (go to 58)
_____other: ____

56. DID STUDENTS OTHER THAN YOUR VISUALLY IMPAIRED STUDENT BENEFIT FROM USE OF THE TAPES?

_____yes
_____no
_____unsure
_____other: ____

57. WAS THE USE OF THE TAPES DIFFICULT TO MANAGE?

_____yes WHY? ____
_____no
_____sort of WHY? ______________________________________
_____other: ____

58. IN YOUR OPINION, DID THE INCLUSION OF PICTURE DESCRIPTIONS ON THE TAPE HELP YOUR VI STUDENT PARTICIPATE IN CLASS DISCUSSIONS WHICH CENTERED AROUND PICTURES?

_____yes, definitely
_____yes, probably
_____no, probably not
_____no, definitely not
_____other: ____

59. DID YOUR VISUALLY IMPAIRED STUDENT LISTEN TO OR USE THE WORD LISTS WHICH WERE INCLUDED ON THE TAPES?

_____yes
_____no
_____unsure
_____other: ____

60. IN YOUR OPINION, WAS IT USEFUL TO HAVE THE WORD LISTS INCLUDED ON THE TAPES?

_____yes, definitely useful
_____yes, probably useful
_____no, probably not useful
_____no, definitely not useful
_____other: ____

61. DID THE TAPES HELP INTEGRATE YOUR VISUALLY IMPAIRED STUDENT INTO THE CLASS?

_____yes, definitely
_____yes, probably
_____no, probably not
_____no, definitely not
_____other: ____

62. HAS YOUR APPROACH TO WORKING WITH A VI STUDENT IN YOUR CLASSROOM CHANGED AS A RESULT OF USING MAVIS MATERIALS?

_____yes HOW?____
_____no WHY?____
_____unsure
_____other:____

63. ARE ADAPTED TEACHER'S GUIDES A USEFUL APPROACH TO FACILITATING THE MAINSTREAMING OF VISUALLY IMPAIRED STUDENTS INTO REGULAR CLASSROOMS?

_____yes
_____no
_____unsure
_____other:____

64. COULD A GOOD INSERVICE TRAINING SESSION ON TEACHING A VI STUDENT IN THE REGULAR CLASSROOM PROVIDE AS EFFECTIVE HELP FOR A TEACHER AS THE ADAPTED TEACHER'S GUIDES?

_____yes
_____no
_____unsure
_____other:____

65. WOULD IT BE USEFUL TO HAVE ADAPTED TEACHER'S GUIDES FOR OTHER SUBJECT AREAS?

_____yes
_____no
_____unsure
_____other:____

66. WHICH WAS MORE HELPFUL TO YOU. . .

_____THE MAVIS ADAPTED TEACHER'S GUIDE OR
_____THE MAVIS PREPARED STUDENT MATERIALS
_____other:____

cae
12/78

Appendix C

STUDENT INTERVIEW SCHEDULE

STUDENT INTERVIEW SCHEDULE

Student's ID#:______________________________ Date:__________

Interviewer's name:____

* *

Definitions:

() = a comment to the interviewer which is not be be read aloud will always appear within parentheses.

ALLCAPS = questions or statements which must be read aloud *verbatim* to the student will appear in capital letters.

* *

Assumptions:

1. The interviewer and the S have been introduced.
2. Both parties are comfortable, seated, and in a relatively quiet spot where the interview will take place.

* *

Opening Statement

MY NAME IS ____________. I WORK FOR PROJECT MAVIS. PROJECT MAVIS DEVELOPED SOME OF THE SOCIAL STUDIES MATERIALS YOU HAVE BEEN USING.

ONE OF THE REASONS I'M HERE TODAY IS TO FIND OUT HOW YOU FEEL ABOUT THE MATERIALS. I ONLY HAVE A FEW QUESTIONS. WHEN I ASK YOU THE QUESTIONS, PLEASE ANSWER TRUTHFULLY.

DO YOU HAVE ANY QUESTIONS BEFORE WE BEGIN?

_____yes (then answer them if you can)
_____no (go to 1)

1. HOW OFTEN DID YOU USE THE MAPS PROVIDED BY PROJECT MAVIS?

_____a lot of the time (go to 2)
_____some of the time (go to 2)
_____hardly ever or never (go to 4)
_____other:____
(go to ____; use your judgment)

2. DID YOU USUALLY USE THE MAPS ALONE OR AS A PART OF A SMALL GROUP?

_____alone
_____small group
_____other:______________________________

3. DID YOU LIKE USING THE MAPS?

_____yes (go to 4)
_____no WHY?______________________________
(go to 4)
_____other:______________________________
(go to 4; use your judgment)

4. DID YOU USE THE TAPES PROVIDED BY PROJECT MAVIS?

_____most of the time (go to 6)
_____some of the time (go to 6)
_____a few times (go to 6)
_____no, not at all (go to 5)
_____other:______________________________
(go to 5 or 6; use your judgment)

5. WHY DIDN'T YOU USE THEM?

_____the recorder was broken, or the tapes were lost or destroyed (go to 12 for rp or lp, go to 16 for braille)
_____the whole class used them (go to 6 and check ✓ that response)
_____he/she didn't like the tapes (go to 12 for rp or lp, go to 16 for braille)
_____he/she thought he/she wasn't supposed to use them (go to 12 for rp or lp, go to 16 for braille)
_____the teacher didn't offer that option (go to 12 for rp or lp, go to 16 for braille)
_____other:______________________________
(go to 12 or 16 depending on response)

6. DID YOU USUALLY USE THE TAPES ALONE, WITH PART OF THE CLASS, OR WITH ALL OF THE CLASS?

_____usually alone
_____usually as a part of a small group
_____usually as a part of the whole class
_____other:______________________________

Appendix E

TEACHER ATTITUDE QUESTIONNAIRE

(place ID label here)

PROJECT MAVIS

Student's Attitude Questionnaire
(Intermediate Grades)

DIRECTIONS:

On the following page are some statements about your social studies textbook and class. Read each statement carefully and decide how you feel about it. Do you agree very much, agree, don't know, disagree, or disagree very much? Mark your answer on the answer sheet which has been provided. Use this answer key:

(A) = Agree Very Much
(B) = Agree
(C) = Don't Know
(D) = Disagree
(E) = Disagree Very Much

Mark your answers by filling the space over the letter which best tells how you feel. If you change your mind, make sure you erase completely. (You may only mark one answer for each question.)

There are no right or wrong answers on this test. Your answers should show your own feelings--not the feelings you think other people want you to have.

1. Of all my school subjects, I like social studies best.

2. I like it when we use maps and globes in our social studies class.

3. I like it when we talk about pictures during social studies class.

4. The best part of social studies is when we are reading our book.

5. The think I like most about social studies is doing the written work in class.

6. I like social studies better than most of my other school subjects.

7. I like the social studies textbook we use.

8. I like the pictures in our social studies textbook.

9. I like the charts and graphs in our social studies textbook.

10. Our social studies textbook is easy to read.

11. I like to use the maps in our social studies textbook.

12. I don't like using the charts and graphs in our social studies textbook.

13. The things our social studies textbook tells about are interesting.

14. I like most of the students in my social studies class.

15. I think most of my classmates in social studies like me OK.

16. I do about as well as most of my social studies classmates on our work assignments.

17. Social studies is harder for me than most people.

18. I like school pretty much.

19. I like it when we get to do things in social studies other than sit at our desks and read.

Appendix D

STUDENT ATTITUDE QUESTIONNAIRE

7. WERE THE TAPES EASY TO USE?

_____yes
_____no WHY?______________________________
_____sort of
_____other:______________________________

8. DID THE PICTURE DESCRIPTIONS ON THE TAPE HELP YOU PARTICIPATE IN CLASS DISCUSSIONS ABOUT PICTURES?

_____yes, definitely
_____yes, probably
_____no, probably not
_____no, definitely not
_____other:______________________________

9. DID YOU LISTEN TO THE WORD LISTS WHICH WERE INCLUDED ON THE TAPES?

_____yes (go to 10)
_____no (go to 11)
_____unsure (go to 10)
_____other:______________________________
(go to 10 or 11, use your judgment)

10. WAS IT HELPFUL TO HAVE THE WORD LISTS INCLUDED ON THE TAPES?

_____yes, definitely helpful
_____yes, probably helpful
_____no, not very helpful WHY?______________________________
_____no, not at all helpful WHY?______________________________
_____other:______________________________

11. DID THE TAPES HELP YOU PARTICIPATE IN CLASS DISCUSSIONS?

_____yes, definitely
_____yes, probably
_____no, not much WHY?______________________________
_____no, not at all WHY?______________________________
_____other:______________________________

(Go to 16 for braille students. Questions 12 through 15 refer to large print and regular print readers.)

12. DID YOU USE THE WORD LISTS YOUR TEACHER GAVE YOU?

_____yes (go to 14)
_____no (go to 13)

13. WHY DIDN'T YOU USE THEM? (Go to end statement.)

_____teacher didn't give them to him/her
_____he/she didn't like them
_____he/she didn't need them
_____he/she couldn't read them
_____he/she couldn't understand them
_____other:____

14. DID THE WORD LISTS HELP YOU DEVELOP THE NEW VOCABULARY WORDS?

_____yes
_____no WHY?____
_____unsure
_____other:____

15. DID THE WORD LISTS HELP YOU PARTICIPATE MORE IN THE CLASS? (Go to end statement.)

_____yes
_____no WHY?____
_____unsure
_____other:____

(Braille reading students only.)

16. DID YOU USE THE BRAILLED WORD LISTS INCLUDED IN THE TEXT?

_____yes (go to 18)
_____no (go to 17)

17. WHY DIDN'T YOU USE THEM? (Go to 19 all options.)

_____didn't like them
_____didn't need them
_____couldn't read them
_____couldn't understand them
_____couldn't find them
_____didn't know they were there
_____other:____

18. DID THE BRAILLED WORD LISTS HELP YOU LEARN THE NEW VOCABULARY WORDS?

_____yes
_____no
_____unsure
_____other:____

19. DID YOU READ THE PICTURE DESCRIPTIONS WHICH WERE INCLUDED IN THE TEXT?

_____yes (go to 21)
_____no (go to 20)
_____unsure (go to 21)
_____other: ____
(go to 21; use your judgment)

20. WHY DIDN'T YOU USE THEM? (Go to end statement.)

_____used the tapes instead
_____had trouble finding them
_____had trouble reading them. WHY?: reading level, length, poor reading (circle and/or specify)____________________________
_____listened to the descriptions given in class
_____other: ____

21. WERE YOU ABLE TO FIND AND READ THE BRAILLE PICTURE DESCRIPTIONS FAST ENOUGH TO PARTICIPATE IN DISCUSSIONS OF THE PICTURES? (Go to end statement.)

_____yes, all of the time
_____yes, most of the time
_____no, not usually
_____no, never
_____other: ____

End statement:

THAT'S ALL THE QUESTIONS I HAVE. IS THERE ANYTHING YOU WOULD LIKE TO ADD ABOUT WORKING WITH THE PROJECT MAVIS MATERIALS? (If so, write it here)

____
____
____

THANK YOU FOR HELPING US!